# Chem-Impex International Inc.

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#### SAFETY DATA SHEET

## SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 34246

NAME: Diethyl cyclohexane-1,4-dicarboxylate

SYNONYMS:

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)

ACUTE TOXICITY, ORAL (CATEGORY 5), H303 ACUTE TOXICITY, DERMAL (CATEGORY 5), H313 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)**

H303 + H313 MAY BE HARMFUL IF SWALLOWED OR IN CONTACT WITH SKIN

H401 TOXIC TO AQUATIC LIFE

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

#### PRECAUTIONARY STATEMENT(S)

P273 AVOID RELEASE TO THE ENVIRONMENT.

P312 CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.

P391 COLLECT SPILLAGE

NONE

P420 STORE AWAY FROM INCOMPATIBLE MATERIALS.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE

DISPOSAL PLANT.

HAZARDS NOT

OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS

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

MF:  $C_{12}H_{20}O_4$ 

MW: 228.28

CAS-NO. 72903-27-6

PURITY: 96 - 100% (Assay, sum of isomers)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION					
Diethyl cyclohexane-1,4-dicarboxylate							
-		-					

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 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.

TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. IN CASE OF SKIN CONTACT

> 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.

MOST IMPORTANT SYMPTOMS AND

EFFECTS, BOTH ACUTE

AND DELAYED

DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY

IRRITATION.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NO DATA AVAILABLE

#### SECTION 5. FIRE AND EXPLOSION DATA

#### **EXTINGUISHING MEDIA**

SUITABLE EXTINGUISHING

MEDIA

SUITABLE EXTINGUISHING MEDIA

WATER SPRAY, FOG, CO2, 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

SPECIAL HAZARDS ARISING 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 WA

USE WATER SPRAY TO COOL UNOPENED CONTAINERS. STATIC CHARGES GENERATED BY

EMPTYING PACKAGE IN OR NEAR FLAMMABLE VAPOR

MAY CAUSE FLASH FIRE.

# SECTION 6. ACCIDENTAL RELEASE MEASURES

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.

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

#### **CONTROL PARAMETERS**

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

EXPOSURE LIMIT VALUES.

#### **EXPOSURE CONTROLS**

APPROPRIATE

ENGINEERING CONTROLS

USE EXPLOSION-PROOF VENTILATION EQUIPMENT TO STAY BELOW EXPOSURE LIMITS. ADEQUATE VENTILATION

SHOULD BE PROVIDED SO THAT EXPOSURE LIMITS ARE

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL

NOT EXCEEDED.

#### 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 WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING PROTECTION 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.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Colorless liquid that could crystallize

ODOUR CHARACTERISTIC
ODOUR THRESHOLD NO DATA AVAILABLE
PH NO DATA AVAILABLE

**MELTING** 

POINT/FREEZING POINT

BOILING POINT 285 - 286 °C FLASH POINT > 93 °C

EVAPOURATION 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 7.1 RELATIVE DENSITY 1.05

WATER SOLUBILITY INSOLUBLE

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 NOT EXPLOSIVE OXIDIZING PROPERTIES NOT OXIDIZING

#### OTHER SAFETY INFORMATION

SPECIFIC GRAVITY 1.05 AT 25 C

#### **SECTION 10.** STABILITY AND REACTIVITY

REACTIVITY THE PRODUCT IS STABLE AND NON-REACTIVE UNDER

NORMAL CONDITIONS OF USE, STORAGE AND TRANSPORT

STABLE UNDER RECOMMENDED STORAGE CONDITIONS. CHEMICAL STABILITY

POSSIBILITY OF

NO DANGEROUS REACTION KNOWN UNDER CONDITIONS

OF NORMAL USE. **HAZARDOUS REACTIONS** 

CONDITIONS TO AVOID 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

#### **SECTION 11.** TOXICOLOGICAL INFORMATION

#### INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL RAT - > 2000 MG/KG

(OECD 420)

INHALATION: NO DATA AVAILABLE

LD50 DERMAL RAT- > 2000 MG/KG

(OECD 402)

NO DATA AVAILABLE

SKIN IRRITATION (DERMAL, RABBIT)(OECD 404): NON IRRITANT

CORROSION/IRRITATION

MAY BE HARMFUL IN CONTACT WITH SKIN.

**SERIOUS EYE** IRRITATION (OCULAR, RABBIT)(OECD 405): NON IRRITANT

DAMAGE/EYE 100%

**IRRITATION** DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY

IRRITATION.

RESPIRATORY OR SKIN

SENSITISATION

SENSITIZATION (GUINEA PIG MAXIMIZATION)(OECD 406):

NON SENSITIZING

**GERM CELL** MUTAGENICITY (SALMONELLA REVERSION)(OECD 471):

MUTAGENICITY NON MUTAGENIC

**CARCINOGENICITY** 

NTP:

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.

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.

**REPRODUCTIVE** GENOTOXICITY (IN VITRO, HUMAN LYMPHOCYTES)(OECD

**TOXICITY** 473): NO EFFECTS

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

DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY

IRRITATION.

MAY BE HARMFUL IN CONTACT WITH SKIN. MAY BE

HARMFUL IF SWALLOWED.

SUB-ACUTE TOXICITY (28-D, GAVAGE, RAT)(OECD 407):

NOEL = 1000 MG/KG/DAY

RTECS: NOT AVAILABLE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT

BEEN THOROUGHLY INVESTIGATED.

# SECTION 12. ECOLOGICAL INFORMATION

**TOXICITY** 

TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRODUCT		SPECIES	TEST RESULTS				
Diethyl cyclohexane-1,4-dicarboxylate							
AQUATIC							
OTHER	EC50	ACTIVATED SLUDGE	840 MG/L, 3 HR SLUDGE INHIBITION TEST				
ACUTE							
ALGAE	EC50	ALGAE	58 MG/L, 96 HR				
CRUSTACEA	EC50	DAPHNIA	45 MG/L, 48 HR				
FISH	LC50	FISH	7.1 MG/L, 96 HR				

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY READILY BIODEGRABILITY (OECD 301D): 34 %

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** 

NO DATA AVAILABLE

# 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.

CONTAMINATED

PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

## SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1,4-CYCLOHEXANEDICARBOXYLIC ACID, 1,4-

DIETHYL ESTER)

UN NUMBER: 3082 CLASS: 9 PACKING GROUP: III REPORTABLE QUANTITY 155

(RQ):

MARINE POLLUTANT YES

**IMDG** 

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. (1,4-CYCLOHEXANEDICARBOXYLIC ACID, 1,4-

DIETHYL ESTER)

UN NUMBER: 3082 CLASS: 9 PACKING GROUP: III MARINE POLLUTANT YES

IATA NOT DANGEROUS GOODS

# **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.

SARA 311/312 HAZARDS YES

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

CAS # REVISION DATE

Diethyl cyclohexane-1,4- 72903-27-6

dicarboxylate

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS # REVISION DATE

Diethyl cyclohexane-1,4- 72903-27-6

dicarboxylate

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS # REVISION DATE

Diethyl cyclohexane-1,4- 72903-27-6

dicarboxylate

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.

H303 + H313 MAY BE HARMFUL IF SWALLOWED OR IN CONTACT WITH

SKIN

H401 TOXIC TO AQUATIC LIFE

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

#### **HMIS RATING**

HEALTH HAZARD: 1 CHRONIC HEALTH HAZARD: FLAMMABILITY: 1 PHYSICAL HAZARD 0

#### NFPA RATING

HEALTH HAZARD: 1 FIRE HAZARD: 1 REACTIVITY HAZARD: 0

#### 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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