## 1 PRODUCT AND COMPANY IDENTIFICATION


**Supplier Details:** Coatings for Industry, Inc.
319 township Line Rd.
Souderton, PA 18964

**Emergency:** Infotrac
**Contact:** USA: 1-800-535-5053 / International :352-323-3500
**Phone:** 215-723-0919
**Fax:** 215-723-0911
**Email:** info@cficoatings.com
**Web:** www.cficoatings.com


## 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**

Health, Skin sensitization, 1
Environmental, Hazards to the aquatic environment - Chronic, 3
Health, Serious Eye Damage/Eye Irritation, 2 A

### GHS Label elements, including precautionary statements

**GHS Signal Word:** **WARNING**

**GHS Hazard Pictograms:**

**GHS Hazard Statements:**

H317 - May cause an allergic skin reaction
H412 - Harmful to aquatic life with long lasting effects
H319 - Causes serious eye irritation

**GHS Precautionary Statements:**

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
P302+352 - IF ON SKIN: Wash with soap and water.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredients:**

| Cas# | % | Chemical Name |
|---|---|---|
| 136210-30-5 | 70-80% | Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester |
| 136210-32-7 | 10-20% | Aspartic acid, N,N'-[methylenebis(2-methyl-4,1-cyclohexanediyl)]bis-, tetraethyl ester |
| 108-32-7 | 1-5% | Propylene carbonate |
| 165101-57-5 | 1-5% | Oxazolidine, 3-butyl-2-(1-ethylpentyl)- |

## 4 FIRST AID MEASURES

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin Contact:** Remove contaminated clothing and footwear immediately, and wash before reuse. Discard clothing and footwear which cannot be decontaminated. Wash skin with soap and water.
Get medical attention if irritation develops and persists.

**Eye Contact:** Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.
Then remove contact lenses, if easily removeable, and continue irrigation for not less than 15 minutes.
Get medical Attention if irritation develops.

**Ingestion:** Rinse mouth with water. Drink large quantities of water.
Do not induce vomiting.
Seek immediate medical attention

## 5 FIRE FIGHTING MEASURES

**Flash Point:** 241 °F (116 °C)
**Flash Point Method:** Closed Cup

Special Fire Fighting Procedures:
Full emergency equipment with self contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire, irritating and/or toxic gases and smoke (see reactivity data) may be present from decomposition/combustion. Isolate from heat, electrical equipment, sparks and open flame. Closed container may explode when exposed to extreme heat. Use cold water to cool fire exposed containers to minimize risk of rupture. Solvent vapors may be heavier than air. Stagnant air may cause vapors to accumulate and travel along the ground to an ignition source which may result in a flash back to the source of the vapors.

**Extinguishing Media:** Dry chemical; carbon dioxide; foam; water spray for large fires.

## 6 ACCIDENTAL RELEASE MEASURES

Evacuate nonessential personnel.
Keep away from drains and ground water.
Pick up excess with inert absorbant material and place into separate waste container.
Watch out for slippery conditions when spillage.
Dispose of in accordance with local, state and federal regulations.

## 7 HANDLING AND STORAGE

**Handling Precautions:** Store in a cool dry place. Use approved containers only.
Keep container tightly sealed.

**Storage Requirements:** Keep away from heat, sparks, and flames.
Keep container tightly sealed.
Store in area where it will not come into contact with strong acids or oxidizing agents.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:**

Exhaust ventilation sufficient to keep the airborne concentrations of the solvents in the workplace below their respective TLVs.
Respirator that is recommended or approved for use in organic vapor containing environments (air purifying or fresh air supplied) may be necessary. In spray applications an organic vapor/particulate respirator or air supplied air unit is necessary. The use of a positive pressure supplied air respirator is mandatory when; airborne concentrations are not known; when levels are 10 times the appropriate TLV; or if spraying is performed in a confined space or area with limited ventilation. Take into account other materials being used concurrently, the type of application and environmental concentrations when selecting a respirator. Observe OSHA regulations for respirator use (29 CFR 1910.134).

**Personal Protective Equipment:**

The recommendations in this section should not be a substitute for a personal protective equipment (PPE) assessment performed by the employer as required by 29 CFR 1910 Subpart I.

Respiratory Protection
If vapors form, respiratory protection is recommended., The use of a positive pressure supplied air respirator is recommended if the airborne concentration is unknown or if spraying is performed in a confined space or area with limited ventilation., In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary.

Hand Protection
Ensure gloves remain in good condition during use and replace if any deterioration is observed. Permeation resistant gloves., Viton gloves., 4H laminate gloves., Butyl rubber gloves., Nitrile rubber gloves.

Eye Protection
Chemical safety goggles or safety glasses with side-shields., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

Skin Protection
Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact., Where spray mist/vapor is anticipated, permeation resistant clothing is recommended.

Additional Protective Measures
Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

**Exposure Limits**

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear | | |
| **Physical State:** | Liquid | **Odor:** | Mild |
| **Spec Grav./Density:** | 1.0-1.1 | **Percent Volatile:** | 4.5% |
| | | **Flash Point:** | 241 °F (116 °C) |
| | | **VOC:** | 6g/l |

## 10 STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical Stability:** | Product is stable under normal conditions. |
| **Conditions to Avoid:** | Contact with incompatible materials Heat, flames and sparks |
| **Materials to Avoid:** | Strong Acids; Strong Oxidizing Agents.Isocyanates |
| **Hazardous Decomposition:** | By Fire and Thermal Decomposition: Carbon oxides, Nitrogen oxides (NOx), Amines, other aliphatic fragments which have not been determined, Ammonia gas may be liberated at high temperatures. |
| **Hazardous Polymerization:** | Will not occur. |

## 11 TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:**
Skin Contact
Eye Contact
Inhalation
Ingestion

**Health Effects and Symptoms**
Acute: May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash., May cause skin irritation with symptoms of reddening, itching, and swelling., May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling., May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.
Chronic: Not expected to cause adverse chronic health effects.

**Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester (136210-30-5)**

Acute Oral Toxicity
Acute toxicity estimate: > 5,000 mg/kg (Calculation method)

**Aspartic acid, N,N'-[methylenebis(2-methyl-4,1-cyclohexanediyl)]bis-, tetraethyl ester (136210-32-7)**

Acute Oral Toxicity
Acute toxicity estimate: > 5,000 mg/kg (Calculation method)

**Toxicity Data for: Aspartic Ester**
Toxicity Note: Toxicity data is based on a similar product.
Acute Oral Toxicity
LD50: > 2,000 mg/kg (rat) (Directive 67/548/EEC, Annex V, B.1.) Studies of a comparable product.
Acute Inhalation Toxicity
LC50: > 4.224 mg/l, 4 h, dust/mist (rat, male/female) (OECD Test Guideline 403) Toxicological studies of a comparable product.
Acute Dermal Toxicity
LD50: > 2,000 mg/kg (rat) (Directive 67/548/EEC, Annex V, B.3.) Studies of a comparable product.
Skin Irritation
OECD Test Guideline 404, slight irritant
Eye Irritation
rabbit, OECD Test Guideline 405, Slightly irritating. Toxicological studies of a comparable product.
Rat, Effect on the respiratory tract:slight irritant
Sensitization
Skin sensitisation according to Magnusson/Kligmann (maximizing test):: positive (Guinea pig, OECD Test Guideline 406) Toxicological studies of a comparable product.
Repeated Dose Toxicity
Subacute oral toxicity: NOAEL: > 1,000 mg/kg, (rat, Male/Female) Toxicological studies of a comparable product.
Mutagenicity
Genetic Toxicity in Vitro:

Chromosome aberration test in vitro: negative. Toxicological studies of a comparable product.
Salmonella/microsome test (Ames test): No indication of mutagenic effects. Toxicological studies of a comparable product.
Genetic Toxicity in Vivo:
Micronucleus test: negative (Mouse). Toxicological studies of a comparable product.
negative
Toxicity to Reproduction/Fertility
Two-generation study, Oral, (rat, male/female) Toxicological studies of a comparable product.
Developmental Toxicity/Teratogenicity
rat, female, Oral, NOAEL (teratogenicity): 1,000 mg/kg, NOAEL (maternal): 1,000 mg/kg, Studies of a comparable product.
Carcinogenicity:
No carcinogenic substances as defined by IARC, NTP and/or OSHA

**Propylene carbonate (108-32-7)**

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.
Oral
Type of value: LD50
Species: rat (male/female) Value: > 5,000 mg/kg (OECD Guideline 401)
Limit concentration test only (LIMIT test). No mortality was observed.
Inhalation
Species: rat (no data)
Value: (IRT)
Exposure time: 8 h
No mortality within the stated exposition time as shown in animal studies.
Dermal
Type of value: LD50
Species: rabbit (male/female) Value: > 2,000 mg/kg (OECD Guideline 402)
Limit concentration test only (LIMIT test). No mortality was observed.
Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.
Irritation / corrosion
Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.
Skin
Species: rabbit
Result: non-irritant
Method: Draize test
Eye
Species: rabbit
Result: Irritant.
Method: OECD Guideline 405
Sensitization
Assessment of sensitization: The substance did not cause skin sensitization in humans.
Patch-Test
Species: human
Result: Non-sensitizing.
Method: Human patch test
Aspiration Hazard
No aspiration hazard expected.
Chronic Toxicity/Effects
Repeated dose toxicity
Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects. No adverse effects were observed after repeated inhalative exposure in animal studies. After repeated exposure the prominent

effect is local irritation.
Genetic toxicity
Assessment of mutagenicity: No mutagenic effect was found in various tests with microorganisms and mammalian cell culture. The substance was not mutagenic in a test with mammals.
Carcinogenicity
Assessment of carcinogenicity: Dermal exposure is not expected to be carcinogenic.
Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. No effects have been reported in reproductive organs in long term animal studies.
Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.
Symptoms of Exposure
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible
Medical conditions aggravated by overexposure
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

**Oxazolidine, 3-butyl-2-(1-ethylpentyl)- (165101-57-5)**

INHALATION
In high concentrations, vapours may irritate throat and respiratory system and cause coughing.
INGESTION
May cause discomfort if swallowed.
SKIN CONTACT
May cause sensitisation by skin contact.
EYE CONTACT
Irritating to eyes.

## 12 ECOLOGICAL INFORMATION

**Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester (136210-30-5)**
Data on the product is not available.Please find the data available for the components.

**Aspartic acid, N,N'-[methylenebis(2-methyl-4,1-cyclohexanediyl)]bis-, tetraethyl ester (136210-32-7)**
Data on the product is not available.Please find the data available for the components.

**Ecological Data for Aspartic Ester**
Biodegradation
13 %, Exposure time: 28 d, i.e. not readily degradable. Ecotoxicological reports on a comparable product
0 %, Exposure time: 28 d, i.e. not inherently degradable. Ecotoxicological studies of the product
Bioaccumulation
value calculated, 1,872 BCF
The substance hydrolyzes rapidly in water. An accumulation in aquatic organisms is not to be expected.
Acute and Prolonged Toxicity to Fish
LC50: 66 mg/l (Danio rerio (zebra fish), 96 h). Ecotoxicological reports on a comparable product
Acute Toxicity to Aquatic Invertebrates
EC50: 88.6 mg/l (Daphnia magna (Water flea), 48 h). Studies of a comparable product.
Toxicity to Aquatic Plants
IC50: 113 mg/l, (scenedesmus subspicatus, 72 h). Ecotoxicological reports on a comparable product
Toxicity to Terrestial Plants
NOEC: >= 100 mg/kg, End Point: seedling emergence (Avena sativa (oats)). Studies of a comparable product.
NOEC: >= 100 mg/kg, End Point: seedling emergence (Allium cepa (onion)). Studies of a comparable product.
NOEC: >= 100 mg/kg, End Point: seedling emergence (Brassica napus (rape)). Studies of a comparable product.
Toxicity to Microorganisms
EC50: 3,110 mg/l, (activated sludge, 3 h). Ecotoxicological reports on a comparable product

**Propylene carbonate (108-32-7)**
Toxicity
Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Toxicity to fish
LC50 (96 h) > 1,000 mg/l, Cyprinus carpio (Directive 92/69/EEC, C.1, semistatic)
The details of the toxic effect relate to the nominal concentration.
Aquatic invertebrates
EC50 (48 h) > 1,000 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration.
Aquatic plants
EC50 (72 h) > 900 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.
Chronic toxicity to fish
Study scientifically not justified.
Chronic toxicity to aquatic invertebrates
Study scientifically not justified.
Assessment of terrestrial toxicity
Study scientifically not justified.
Microorganisms/Effect on activated sludge
Toxicity to microorganisms
DIN 38412 Part 8 aquatic
bacterium/EC10 (16 h): 7,400 mg/l
Persistence and degradability
Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).
Elimination information
90 - 100 % DOC reduction (14 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)
Assessment of stability in water
Study scientifically not justified.
Bioaccumulative potential
Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Bioaccumulation potential
Study scientifically not justified.
Mobility in soil
Assessment transport between environmental compartments
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.
Additional information
Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.
Other ecotoxicological advice:
Do not release untreated into natural waters.

**Oxazolidine, 3-butyl-2-(1-ethylpentyl)- (165101-57-5)**
LC 50, 96 Hrs, FISH mg/l 20mg/l
EC 50, 48 Hrs, DAPHNIA, mg/l 1.10mg/l
IC 50, 72 Hrs, ALGAE, mg/l 5.6mg/l
BIOACCUMULATION
The product does not contain any substances expected to be bioaccumulating.
DEGRADABILITY
The product is biodegradable.

## 13 DISPOSAL CONSIDERATIONS

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state and local environmental control laws
.
Empty Container Precautions
Do not heat or cut container with electric or gas torch. Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Label precautions also apply to this container when empty.

## 14 TRANSPORT INFORMATION

**Land transport (DOT)**
Non-Regulated

**Sea transport (IMDG)**
Non-Regulated

**Air transport (ICAO/IATA)**
Non-Regulated

## 15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES
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Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester (136210-30-5) [70-80%] MASS, NJHS, PA, TSCA

Aspartic acid, N,N'-[methylenebis(2-methyl-4,1-cyclohexanediyl)]bis-, tetraethyl ester (136210-32-7) [10-20%] MASS, NJHS, PA, TSCA

Propylene carbonate (108-32-7) [1-5%] HAP, NJHS, PA, TSCA

Oxazolidine, 3-butyl-2-(1-ethylpentyl)- (165101-57-5) [1-5%] TSCA

Regulatory CODE Descriptions
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MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act
HAP = Hazardous Air Pollutants

## 16 OTHER INFORMATION

**NOTICE:** This information is presented in good faith and believed to be accurate as of the effective date below. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Coatings For Industry, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by the material. Such vendees or users assume all risks associated with the use of the material. Regulatory requirements are subject to change and may differ from one location to another: it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The preceding specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.