

**1. Identification of the substance/preparation and of the company/undertaking**

Product name : Tacusil PUA 505TC Part A

Manufacturer or supplier's details

Kitpackers Trading (Huizhou) Co., Ltd.

Room 9,11 Floor, Chuangxin Building Block 1, No.1, Technology Road,  
Technology Chuangxin Park, West of Dayabay, Huizhou City,  
Guangdong, P.R. China (86752) 5533798.

Information Department: Product Safety Department: info@tacusil.com.hk

Emergency Telephone Number:

North America - Chemtrec: 1-800-424-9300 (24 hours)

International - Chemtrec: 01-703-527-3887 (24 hours)

Recommended use of the chemical and restrictions on use

Recommended use : Adhesives

**2. Hazards identification**

**Emergency Overview:**

May cause an allergic skin reaction. Very toxic to aquatic life.

**GHS Classification:**

<u>Hazard Class</u>	<u>Hazard Category</u>
Skin sensitizer	Category 1
Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

**Label elements**



Hazard pictogram:

Signal word: Warning

**Hazard statement**

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

**Precautionary statements:**

**[Prevention]:**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathe dust/fume/gas/mist/vapors/spray.

P272 Contaminated work clothing should not be allowed out of workplace

P273 Avoid release to the environment.

**[Response]:**

P302+P352 IF ON SKIN: Wash with plenty of water.

P321 Specific treatment (See ..on this label).

P333+P317 if skin irritation or rash occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse

P391 Collect spillage

**[Disposal]:**

P501 Dispose of contents/container in accordance with local/regulation/international regulations.

### 3. Composition / information on ingredients

Substance / Mixture : Mixture

Chemical name	CAS-No.	Concentration (% w/w)
Triethyl orthoformate	122-51-0	1~5
Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	41556-26-7	1~5
$\epsilon$ -Caprolactone, oligomeric reaction products with propylidynetrimehanol	37625-56-2	40~60
Anhydride polyester polyol	Trade secret	40~60

### 4. First aid measures

**Description of first aid measures**

**General information**

Get medical attention if any discomfort continues.

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If respiratory problems, artificial respiration/oxygen. Call a POISON CENTER or doctor

**Ingestion**

IF SWALLOWED: DO NOT induce vomiting. Call a POISON CENTER or doctor Never give anything by mouth to an unconscious person.

**Skin contact**

IF ON SKIN: Take off contaminated clothing. Wash with plenty of water several minites. If skin irritation occurs: Get medical advice/attention.

**Eye contact**

IF IN EYES: Hold eyelids apart. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

## 5. Fire fighting measures

### **Extinguishing media**

Extinguish with carbon dioxide or dry powder, foam.

### **Unsuitable extinguishing media**

Avoid water in straight hose stream, which will scatter and spread fire.

### **Special hazards arising from the substance or mixture**

#### **Hazardous combustion products**

Not determined.

#### **Unusual Fire & Explosion Hazards**

Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization.

### **Advice for firefighters**

Special Fire Fighting Procedures Evacuate area of affected personnel. Fight advanced or massive fires from safe distance or protected location. Do not use water to keep fire exposed containers cool and disperse vapours. Keep run-off water out of sewers and water sources. Dike for water control.

### **Protective equipment for fire-fighters**

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

Extinguish at a up wind place.

## 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

For personal protection, see section 8. Avoid inhalation of vapours and aerosol spray. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

### **Environmental precautions**

The product belongs to water pollutant. Do not discharge into drains, water courses or onto the ground.

### **Methods and material for containment and cleaning up**

Well ventilated and well protected.

**【1】** Small Spillages: Collect the spillages into a closed container. Absorb with inert, damp, non-combustible material, then transit to a safety place.

**【2】** Large Spillages: Stop the flow of material if this is without risk. Dike the spilled material. Cover with plastic sheet to prevent spreading. Pump or shovel to storage or salvage vessels. Prevent entry into waterways, sewer, basements or confined areas.

**【3】** Other Precautions: Add inhibitor to prevent polymerization.

### **Reference to other sections**

For personal protection, see section 8. For waste disposal, see section 13.

## 7. Handling and storage

### **Precautions for safe handling**

Provide good ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes and skin.

**Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area. Keep away from sources of heat and incompatible materials. Keep container tightly sealed when not in use.

**Specific end use(s)**

The identified uses for this product are detailed in Section 1.2

**8. Exposure controls / personal protection**

**Control parameters** no data

**Exposure controls** no data

**Process conditions**

Provide eyewash, quick drench.

**Engineering measures**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Respiratory equipment**

Wear respiratory protection with combination filter at high concentration. At emergency, respiratory protection with air supply must be use.

**Hand protection**

Impervious gloves (Neoprene, latex, polypropylene or chloroprene).

**Eye protection**

Wear tight-fitting goggles or face shield.

**Other Protection**

Provide eyewash, quick drench.

**Hygiene measures**

Wash thoroughly after handling. Form a good habit.

**Personal protection**

People unprotected as required are not allowed into the work area.

**Skin protection**

Wear apron or protective clothing in case of splashes.

**9. Physical and chemical properties**

Information on basic physical and chemical properties

Appearance	clear
Physical state::	Liquid
pH:	No data available
Initial boiling point and boiling range (°C) :	No data available
Flash point (°C) :	No data available
Upper explosion limit:	No data available
Lower explosive limit:	No data available
Vapor pressure (kPa) :	No data available
Relative density:	1.13
Solubility in water:	No data available
Odor:	No data available
Melting point (°C) :	No data available

Auto-ignition temperature: (°C) :	No data available
Decomposition temperature (°C) :	No data available
Flammability (solid, gas):	No data available
Vapor density:	No data available
Partition coefficient: n-octanol/water (lg P) :	No data available
Viscosity:	1500cps

## 10. Stability and reactivity

### Reactivity

No data available.

### Chemical stability

Material is stable under normal conditions.

### Possibility of hazardous reactions

#### Hazardous Polymerisation

Polymerization may occur under certain conditions.

#### Polymerisation Description

Polymerizes generating heat.

#### Conditions to avoid

Heat , Oxidizers. Acid

#### Incompatible materials

#### Materials To Avoid

Oxidizing agents(eg peroxides, nitrates). Reducing agents. Acid.

#### Hazardous decomposition products

None known.

## 11. Toxicological information

### Information on toxicological effects

#### Toxicological information

· Oral	
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>	
Oral	LD50 >2000 mg/kg (rat) (EU Method B.1)
<b>31831-53-5 2-oxepanone, polymer with 1,4 butanediol</b>	
Oral	LD50 >2000 mg/kg (rat) (Standard Acute) Source: REACH Dossier Standar Acute Method Testing
<b>122-51-0 Triethyl orthoformate</b>	
Oral	LD50 7060 mg/kg (rat) Reference: ECHA (2012).

**Potential Health Effect(s):** See acute inhalative effect(s) for further information

· Dermal	
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>	
Dermal	LD50 6400 mg/kg (rat) (OECD 402)
<b>31831-53-5 2-oxepanone, polymer with 1,4 butanediol</b>	
Dermal	LD50 not irritating mg/kg (rabbit) (In vivo OECD Guideline 404) Source: REACH Dossier
<b>122-51-0 Triethyl orthoformate</b>	
Dermal	LD50 18000 mg/kg (rabbit) Reference: ECHA (2012).

**Potential Health Effect(s):**No further relevant information available; classification is not possible. See acute inhalative effect(s) for further information.

<b>Inhalative</b>		
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>		
Inhalative	LC50/4 h	(No data available) No acute toxicity data exists on inhalation. However the inhalatory route is unlikely since the product is a non volatile liquid.
<b>122-51-0 Triethyl orthoformate</b>		
Inhalative	LC50/4 h	(rat) (LC0/4hrs ≥ saturated vapor) Reference: ECHA (2012).

**Potential Health Effect(s):**While not possible to classify the acute inhalative hazard due to missing data, the product may cause the following symptom(s): dizziness or lightheadedness

<b>Skin Corrosion or Irritation</b>		
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>		
Corrosion/Irritation		(Not applicable) No irritating effect. OECD 404
<b>122-51-0 Triethyl orthoformate</b>		
Corrosion/Irritation		not irritating (rabbit) (OECD TG 404) Erythema: 1.89 (Max. score not available) Edema: 1.61(Max. score not available); the substance is not irritating to rabbit

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>Eye Serious Damage or Irritation</b>		
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>		
Damage/Irritation		(Not applicable) No irritating effect. OECD 405
<b>31831-53-5 2-oxepanone, polymer with 1,4 butanediol</b>		
Damage/Irritation		not irritating (rabbit) (in vivo OECD Guideline 404) Source: REACH Dossier
<b>122-51-0 Triethyl orthoformate</b>		
Damage/Irritation		slightly (rabbit) (OECD TG 405; 21 days) Cornea: 0/4 (Max. 4); Iris: 0/2 (Max. 2); Chemosis: 1/4 (Max. 4); and Conjunctivae: 1.44/3 (Max. 3). Fully reversible by the end of the test. The substance was slightly irritating to rabbit eyes. Reference: ECHA (2012).

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>Respiratory or Skin Sensitization</b>		
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>		
Sensitization	Skin	(Not applicable) No skin sensitization. OECD 429
<b>31831-53-5 2-oxepanone, polymer with 1,4 butanediol</b>		
Sensitization	Skin	not sensitizing (mouse) (in vivo LLNA OECD Guideline 429)
<b>122-51-0 Triethyl orthoformate</b>		
Sensitization	Skin	not sensitizing (guinea pig) (OECD TG 406; 20 treated animals;100% dose level) No positive reaction was observed in any treated animals; the substance was therefore not sensitizing to pig skin. Reference: ECHA (2012).
	Respiratory	(2012). (No data)

**Potential Health Effect(s):** No relevant information for respiratory sensitization; classification is not possible.

<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients is listed.		
<b>Germ Cell Mutagenicity</b>		
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>		

Mutagenicity	(baterica) The product is not considered to be mutagenic. Not mutagenic in Bacterial Reverse Mutation Assay OECD 471 The substance is not clastogenic. Mammalian Chromosomal Aberration Test OECD 473* Not mutagenic in mammalian cells OECD 476*  read across from supporting substance (structural analogue)
<b>31831-53-5 2-oxeapanone, polymer with 1,4 butanediol</b>	
Mutagenicity	not mutagenic (Escherichia coli) (Ames test OECD Guideline 471) Source: REACH Dossier
<b>122-51-0 Triethyl orthoformate</b>	
Mutagenicity	N/a (Test species listed below) In Vitro (Mammalian cell gene mutation assay; OECD TG 476; Mouse lymphoma L5178Y cells) - positive In Vitro (Mammalian chromosome aberration test; OECD TG 473; Chinese hamster lung fibroblasts) - negative In Vivo (Micronucleus assay; OECD TG 474; mouse) - ambiguous No certain positive results from In Vivo tests were observed; it was not possible to make a conclusion without further data. Reference: ECHA (2012).

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>· Carcinogenicity</b>	
<b>122-51-0 Triethyl orthoformate</b>	
Carcinogenicity	negative (Test species: n/a) Not listed as a carcinogen according to ACGIH, IARC, NTP, or OSHA.

**Potential Health Effect(s):** Not a known Carcinogen.

<b>· Reproductive Toxicity</b>	
<b>122-51-0 Triethyl orthoformate</b>	
Reproductive Toxi.	N/a (rat) LOEL (P-generation; Oral; 45 days) = 58 mg/kg bw/day LOEL (Developmental toxicity; Oral; 45 days) = 147 mg/kg bw/day No more details available; classification was not available without further information. Reference: ECHA (2012).

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>· Specific Target Organ Toxicity - Single Exposure</b>	
<b>122-51-0 Triethyl orthoformate</b>	
STOT-Single	(No data available)

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>· Specific Target Organ Toxicity - Repeated Exposure</b>	
<b>122-51-0 Triethyl orthoformate</b>	
STOT-Repeated	(rat) NOEL (Oral; males and females; 45 days) = 51.7 mg/kg bw/day; no test detail available. Reference: ECHA (2012).

**Potential Health Effect(s):** No further relevant information; classification is not possible.

<b>· Aspiration Hazard</b>	
<b>122-51-0 Triethyl orthoformate</b>	
Aspiration Hazard	(No data available)

**Potential Health Effect(s):** No relevant information; classification is not possible.

**Additional Information** No further relevant information.

## 12. Ecological information

### Ecotoxicity

<i>Aquatic Environmental Toxicity</i>	
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>	
Crustacean Toxicity	204* mg/l (Daphnia magna (water flea)) (OECD 202) *Read across from supporting substance (structural analogue) EC50/48h
Fish Toxicity	150 mg/l (Danio rerio) (OECD 203) LC50/96h
<b>122-51-0 Triethyl orthoformate</b>	
Algae Toxicity	68 mg/l (Test species: n/a) (EC50 (96 hrs); QSAR calculation)
Crustacean Toxicity	617 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); EU Method C2) 592 mg/l
Fish Toxicity	(Leuciscus idus (Ide or Orfe)) (LC50 (48 hrs); DIN 38412 Tei 15)
Toxicity	NOEC (30 days) = 35.2 mg/l; when considering the weight of all evidence, the substance was not classified as an environmental hazard. Reference: ECHA (2012).
<i>Degradability and Stability</i>	
<b>122-51-0 Triethyl orthoformate</b>	
Biodegradation	readily (Test species: n/a) Biodegradation (EPA OTS 796.3260; 28 days; CO <sub>2</sub> evolution) = 100%; the substance is readily
Persistence	biodegradable. (Test species: n/a) The substance is not persistent. Reference: Canada DSL (2007). (No data available)
Photodegradation	(Test species: n/a)
Stability in water	Half-life (pH=7; at 25 °C) = 5 hours Reference: ECHA (2012).
<i>Bioaccumulation and Distribution</i>	
<b>37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol</b>	
LogPow	2.4 (Not applicable) (OECD 117)
<b>122-51-0 Triethyl orthoformate</b>	
BCF	(No data available) The substance is not bioaccumulative. Reference: Canada DSL (2007).
Koc LogPow	(No data available) 1.2 (Test species: n/a) (pH=7; at 20 °C) Reference: ECHA (2012).

### Partition coefficient

Not determined.

### Mobility in soil

#### Mobility:

No reports available

### Results of PBT and vPvB assessment

Not applicable.

### Other adverse effects

No information required.



### 13. Disposal considerations

#### General information

Dispose of contents/container in accordance with local/regional/national/international regulation.

#### Waste treatment methods

Generation of waste should be avoided or minimized wherever possible.

Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage.

Dispose of contents/containers in accordance with local, regional, national, and international regulations..

### 14. Transport information

**General** Read safety instructions, SDS and emergency procedures before handling.

#### UN number

3082

#### UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S

#### Transport hazard class(es)

9

#### Transport Labels



#### Packing group

III

#### Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



#### Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

### 15. Regulatory information

The following laws and regulations lay down provisions in terms of chemicals safety use, storage, transportation, loading/ unloading, classification as well as symbol:

GB/T 16483: #Safety data sheet for chemical products - Content and order of sections#  
GB/T 17519: Guidance on the compilation of safety data sheets for chemical products  
GB 15258:#General rules for preparation of precautionary label for industrial chemicals#  
GB 30000.2 ~ GB 30000.29: Rules for classification and labelling of chemicals  
GB 13690:#General rule for classification and hazard communication of chemicals#  
GB 12268:#List of dangerous goods#  
GB 6944:#Classification and code of dangerous goods#  
GB 190 #Labels for packages of dangerous goods#  
GBZ 2.1#Occupational Exposure Limits for Hazardous Agents in the Workplace, Part 1, Chemical Hazardous Agents #

## 16. Other information

### For Industrial Only

This materials safety data sheet is offered solely for your information, consideration and investigation. The data described in this SDS consist of data on literature, our acquisitional data and analogical inference by data of similar chemical substance or product. Kitpackers Trading (Huizhou) Co., Ltd. provides no warranties; either expresses or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.