SAFETY DATA SHEET

Date of first issue: 11/10/2021

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

Product name : Tacusil PUA 501 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

Classification (EC 1272/2008)

Skin Irrit. 1 - H317;
Aquatic Acute 1 – H400
Aquatic Chronic 1 - H410

Label In Accordance With (EC) No. 1272/2008

Hazard pictograms :

Signal word : Warning

Hazard statements : 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:**
P261 Avoid breathing vapour/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P310 Call a POISON CENTER or doctor/physician.
P321 Specific treatment (see information on this label).
P363 Take off contaminated clothing and wash before reuse.
P391 Collect spillage
Disposal
P501 Dispose of contents/container with local / national regulations

Other hazards

No other hazards.

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
ε-Caprolactone, oligomeric reaction products with propylidynetrimethanol	37625-56-2	40~60
2-Oxepanone, polymer with 1,4-butanediol	31831-53-5	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.

Most important symptoms and effects, both acute and delayed

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

May cause severe respiratory system irritation. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptioms in susceptible individuals.

Ingestion

Cause irritation. A burning sensation of the mouth, throat and gastrointestinal tract. Abdominal pain.

Skin contact

Can cause skin irritation. Itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Eye contact

Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.

Indication of any immediate medical attention and special treatment needed

Treatment should be controlled by symptoms and clinical conditions.

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 detemined.
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 unprotected personnel. Fight advanced or massive fires from safe distance or protected location. 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. Extingush 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 satety 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
Exposure controls
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 Viscous liquid.
Colour Colourless.
Odour Not determined.
Solubility Partially Insoluble.
Initial boiling point and boiling range (°C) Not determined.
Melting point (°C) Not determined.
Relative density 1.08 25℃
Vapour density (air=1) Not determined.
Vapour pressure Not determined.
Evaporation rate Not determined.
pH-Value, Diluted Solution Not determined.
Decomposition temperature (°C) Not determined.
Flash point (°C) Not determined.
Auto Ignition Temperature (°C) Not determined.
Flammability Limit - Lower(%) Not determined.
Flammability Limit - Upper(%) Not determined.
Partition Coefficient Not determined.
(N-Octanol/Water)
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**

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

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

· **Dermal**

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

· **Inhalative**

37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol		
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.*
122-51-0 Triethyl orthoformate		
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

· **Skin Corrosion or Irritation**

37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol	
Corrosion/Irritation	*(Not applicable)* *No irritating effect. OECD 404*
122-51-0 Triethyl orthoformate	
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.

· **Eye Serious Damage or Irritation**

37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol	
Damage/Irritation	*(Not applicable)* *No irritating effect. OECD 405*

31831-53-5 2-oxepanone, polymer with 1,4 butanediol	
Damage/Irritation	*not irritating (rabbit) (in vivo OECD Guideline 404) Source: REACH Dossier*
122-51-0 Triethyl orthoformate	
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.

· **Respiratory or Skin Sensitization**

37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol		
Sensitization	*Skin*	*(Not applicable) No skin sensitization. OECD 429*
31831-53-5 2-oxepanone, polymer with 1,4 butanediol		
Sensitization	*Skin*	*not sensitizing (mouse) (in vivo LLNA OECD Guideline 429)*
122-51-0 Triethyl orthoformate		
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*
	Respiratory	*(2012). (No data*

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

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· ***Germ Cell Mutagenicity***

37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol	
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 (structual analogue)*
31831-53-5 2-oxepanone, polymer with 1,4 butanediol	
Mutagenicity	*not mutagenic (Escherichia coli) (Ames test OECD Guideline 471) Source: REACH Dossier*
122-51-0 Triethyl orthoformate	
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.

· **Carcinogenicity**

122-51-0 Triethyl orthoformate	
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.

· **Reproductive Toxicity**

122-51-0 Triethyl orthoformate	
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.

· **Specific Target Organ Toxicity - Single Exposure**

122-51-0 Triethyl orthoformate	
STOT-Single	*(No data available)*

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

· **Specific Target Organ Toxicity - Repeated Exposure**	
122-51-0 Triethyl orthoformate	
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.

· **Aspiration Hazard**	
122-51-0 Triethyl orthoformate	
Aspiration	*(No data available)*

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

Additional Information No further relevant information.

12. Ecological information

Ecotoxicity

· ***Aquatic Environmental Toxicity***	
37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol	
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*
122-51-0 Triethyl orthoformate	
Algae Toxicity	*68 mg/l (Test species: n/a) (EC50 (96 hrs); QSAR calculation)*
Crustacean Toxicity Fish Toxicity	*617 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); EU Method C2) 592 mg/l (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).*

· ***Degradability and Stability***	
122-51-0 Triethyl orthoformate	
Biodegradation	*readily (Test species: n/a)*
Persistence	*Biodegradation (EPA OTS 796.3260; 28 days; CO_2 evolution) = 100%; the substance is readily 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).*

· ***Bioaccumulation and Distribution***	
37625-56-2 2-oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3propanediol	
LogPow	*2.4 (Not applicable) (OECD 117)*
122-51-0 Triethyl orthoformate	
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

Safety, health and environmental regulations/legislation specific for the substance or mixture
National Regulations
Australia-Australian Inventory of Chemical Substances (AICS)
Canada-Domestic Substance List (DSL)/Non Domestic Substances List(NDSL)
China-Inventory of Existing Chemical Substances in China (IECSS)
Europe-European Inventory of Existing Commercial Chemical Substances(EINECS)/European List of Notified

Chemical
Substances(ELINCS)
Japan-Inventory of Existing and New Chemical Substances (ENCS)
Korea-Existing Chemicals List(ECL)
New Zealand-New Zealand Inventory
Philippines-Philippine Inventory of Chemicals and Chemical Substances(PICCS)
United States & Puerto Rico-Toxic Substances Control Act(TSCA) Inventory

Chemical Safety Assessment

No chemical safety assessment has been carried out.

16. Other information

Abbreviations and acronyms used in the safety data sheet

MAC: Maximum Allowable Concentration.

PC-TWA：Permissible Concentration-Time Weighted Average.

PC-STEL：Permissible Concentration-Short Term Exposure Limit.

IARC：International Agency for Research on Cancer.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMDG: International Maritime Dangerous Goods.
ICAO/IATA: International Air Transportation Association.
CAS: Chemical Abstracts Service.
LC50/LD50: Lethal Concentration 50%/Lethal Dose 50%.
STOT:Specific target organ toxicity.

General information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.