

Form 1 Chemical and corporation identity

Chinese name	Chemical name	不饱和聚酯树脂		
	Common name	不饱和聚酯树脂		
	Brand name	utek		
English name	Chemical name	UNSATURATED POLYESTER RESIN		
	Common name			
	Brand name	utek		
Company name	CHANGZHOU UTEK COMPOSITE Co.,Ltd	P.C[A]	213127	
ADD	FuhanYuan 1-812, New North District, Changzhou 213022, Jiangsu, China	e-mail[A]	info@utekcomposite.com	
MSDS number	TMRS(MSDS)-1053	Valid date[A]	01,01,2023	
Emergency Call	+86-519-85856360	Emergency phone of agency [A]	+86-519-85856360	

Form 2 Content information

Chemical category		Flammable liquid					
Components of products	⊙ pure chemicals			◆ mixture			
	component	name[A]	content (or content range) [B]	Molecular formula [C]	Relative molecular weight	CAS [C]	Major damages (Reference3) [A]
	Component1	Unsaturated Polyester	56-62%	(C ₈ H ₄ O ₃ .C ₄ H ₁₀ O ₃ .C ₄ H ₂ O ₃) x	n/a	27837- 75-8	
	Component1	Styrene	38-44%	C ₈ H ₈	104.15	100-42-5	

Form3 Hazards summarizing

Hazards category	Flammable liquid Category 3	Pathways	☉inhaled● ingested ☉percutaneous absorption
Combustion hazards	Flammable		
Health risk	Acute toxicity oral taking, category 4 Acute toxicity skin, not applicable Acute toxicity inhalation, category 5 Skin corrosion/irritation, category 2 Serious eye damage/eye irritation, category 2A Respiratory or skin sensitization, not applicable Germ cell mutagenicity, category 2 Carcinogenicity, category 2 Reproductive toxicity, category 2 Specific target organ- single exposure , not applicable Specific target organ- repeat exposure , category 1		
Environmental hazard	Hazardous to aquatic environment- acute hazard, category 3 Hazardous to aquatic environment-chronic hazard, category 4		

Emergency overview: In case of accident, seek medical advice immediately; when you call the first-aid or the doctor for treatment, the product label should be carried with.

Label factors:

Signal word: warning

Hazard information: Flammable liquid and vapor.

Harmful in contact with skin.

Harmful by inhalation.

Have irritation to skin and may cause allergic dermatitis. Have intense irritation to eyes.

Long-term or repeat contact is harmful to the respiratory organ, nervous system and blood system and is poisonous to the liver of hydrobiont.

Be doubtful of carcinogenicity.

Be harmful to the organ (central nervous system) and irritate the respiratory organ. Be doubtful that it may result in genetic disease.

Ingestion or inhalation may endanger your life.

It may have influence on reproductive ability or be harmful to fetus.

It is harmful to hydrobiont and may produce a long-term and persistent adverse effect.

Precautionary measures: Keep away from heat/spark/fire/hot surface. No smoking. Keep the vessel hermetic and store in a cool and ventilated place. Take antistatic measures; the ground connection is adopted for the vessel and reception facilities. Use anti-explosion electric apparatus/ventilation/lighting equipment etc; non-sparking tools can be used. Operate after receiving special guidance. Don't operate before reading and learning about all safety precautionary measures. Use personal protection equipment and wear protective gloves /glasses /mask as required. Avoid inhaling flue gas/smog/vapor/spray. Clean thoroughly after operation; eating, drinking or smoking is disallowed at site. Avoid draining in to the environment.

Form4 Emergency treatment

Skin contact	Immediately take off soiled clothes, with plenty of running water washing at least 15 minutes. Hospitalize in serious circumstance.
Eye contact	Flush eyes with fresh water immediately for more than 15 minutes, Hospitalize in serious circumstance.
Inhalation	Immediately move to a place with fresh air; performing oxygen therapy if in difficult breathing; carry out artificial respiration. Call ambulance.
Ingestion	Gargle, to drink milk or egg white ,do not try to vomit, or else the resin may enter the lung. Hospitalize at once and informing doctor ingestion content

Form5 Fire protection

Flammability	Flammable liquid , which will burn intensely and may cause combustion explosion when exposes in the fire.			
Hazard property (reference7)	Flammability	● strong ●middle ⊙weak	corrosives	/
Harmful combustion products	carbon dioxide , carbon monoxide others irritative or poisonous vapor and gas			

Extinguishing methods	The fire extinguisher of sand, dry chemicals, foam, carbon dioxide
Extinguishing attention	Evacuate personnel

Form6 Accidental leakage treatment

In case of small amount of leakage, put it into the hazardous waste vessel after absorbing with sand or other inert substances. In case of large amount of leakage, remove the fire source ,stop the leakage and evacuate personnel.

Form 7 Handling and storage (reference 9)

Handling attention	Avoid inhaling and contacting eyes, skin and clothes. When in use ,smoking ,eating ,drinking are prohibited. Operated at ventilated place. Take measures to prevent static electricity . the packaging container should be handled properly.
Storage attention	Store in a cool, ventilated warehouse. Keep away from fire and heat source. Temperature should not be more than 30 °C . Packing seal. And easily stored apart (can) combustion, reducing agent, mixed reservoir of avoid by all means. Use explosion-proof lighting, ventilation facilities. Banning the use of easy to produce the spark of mechanical equipment and tools. Storage area should be equipped with the right material for leakage content. No shock, impact and friction.

Form8 Contact control/personnel protection

The hygiene criterion of workshop	China MAC	50ppm
	Former soviet union MAC	N
	America TLV-TWA	N
	America TLV-STEL	N
Monitor methods	Gas chromatography	
Engineering control	Be hermetic , ensure adequate aeration and use anti-explosion exhaust equipment	
Respiratory system protection	Wear anti-poison respirator with filtration function in high concentration	

Eye protection[B]	Wear mask with filtration function in high concentration
Body protection[B]	Polyethylene protective clothing
Hand protection[B]	Rubber protective gloves
Other protection[C]	Do not eating ,drinking and smoking at work place

Form9 Physical and chemical properties

Appearance and character (NPT)	yellow transparent liquid	Saturated vapor pressure (kPa) [0.6
Melting point (°C) [B]	N	Boiling point (°C) [B]	146
relative density (water=1) [B]	1.3-1.5	Relative vapor density (air=1) [B]	3.6
Heat of combustion (kJ/mol) [C]	N	PH value [B]	N/P
Critical temperature (°C) [C]	N	Critical pressure (MPa) [C]	N
Upper explosive limit[% (V/V)]	6.1	Lower explosive limit[% (V/V)]	1.1
Octanol/log kow value	N	Flashing point (°C)	31
Ignition temperature (°C)	490	Decomposition temperature (°C)	
Other physical and chemical datas	viscosity (cSt)	N/K	vapour density: N/P
dissolubility	solubility in water: undissolved		
Main application	Fiberglass reinforced plastics		

Form10 Stability and reactivity

Stability (NPT) [B]	<input checked="" type="radio"/> stable <input type="radio"/> unstable	Polymerization hazards[B]	<input checked="" type="radio"/> polymerization <input type="radio"/> not polymerization
The condition that should be avoided[B]	<input checked="" type="radio"/> light <input checked="" type="radio"/> heat <input checked="" type="radio"/> other:		
Prohibited things[B]	<input type="radio"/> oxidant <input checked="" type="radio"/> reductive agent <input type="radio"/> acid <input type="radio"/> alkali <input checked="" type="radio"/> H foaming agent <input checked="" type="radio"/> other: inflammable stuff		
Combustion(decomposition)products[B]	<input checked="" type="radio"/> carbon dioxide <input checked="" type="radio"/> carbon monoxide <input checked="" type="radio"/> other: N/P		

Form 11 Toxicology data

Acute toxicity: LD50:5g/kg

LC50:24g/m3/4hrs

Rabbit through eye: 100mg. poisoning irritation.

Rabbit by skin open irritant test: 500mg, mild irritation.

Form 12 Ecology data

Hazardous to the aquatic environment- acute hazard, category 3

Form13 Waste dispose (reference14)

Waste property[B]	• harmful waste Unharmful waste
Waste handling methods[B]	According to local laws and regulations.
Attention of disposing waste[B]	Refer to the local laws and regulations. Suggested that burned with control method of disposal.

Form 14 Transportation

Dangerous products number[B]	33645	UN number [B]	1866
Packing category[B]	III	Packing mark[B] (reference15)	Flammable liquid
Packing methods	White iron phosphide drums , plastic drums , ISO tank		
Transportation attention[B]	Accordance with the rules of dangerous goods of Ministry of railway Transportation, the dangerous goods should be separate shipment, ensure that the container does not leak, collapse, fall, and not damaged. Vehicles should be equipped with corresponding varieties and number of fire equipment. It is strictly prohibited and acids, combustible materials, organic matter, reducing agent, such as spontaneous combustion, in wet flammable items and vehicle. The speed to control and avoid turbulence, turbulence. Summer should be transport in the morning and evening, to prevent exposure to the sun. Before and after loading and unloading, transport vehicle shall be thoroughly cleaned, washed, it is forbidden to mix with organic matter, the impurities such as tinder.		

Form 15 Law information (reference18)

<p>Domestic chemical safety management regulations[A]</p>	<p>Hazardous chemical materials safety management organization (344)</p> <p>Law of the People's Republic of China on Prevention and Control of occupational diseases</p> <p>Chemical safety and health management regulations</p> <p>The occupational health and safety management system standard</p> <p>Regulations of the PRC on the Administration of the Controlled Chemicals about the regulation of the application of chemicals at workplace</p> <p>The Regulations of Safe Management Regarding Dangerous Chemicals (implementing regulations)</p> <p>The Regulations of Safe Management Regarding Dangerous Chemicals;</p> <p>Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution;</p> <p>Environmental protection law of the people's republic of China;</p> <p>The workplace occupational harmful factors exposure limits;</p> <p>hazardous goods packing mark</p>
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