

SAFETY DATA SHEET

Section 1: IDENTIFICATION

PRODUCT NAME: Trinity Shields Conformal Coating A101E

IDENTIFICATION NUMBER: A101E

PRODUCT USE: Acrylic Resin Conformal Coating

BRAND OWNER / MANUFACTURER:

Trinity Shields LLC
5729 Lebanon Road
Suite 144 # 338
Frisco, TX 75034 USA

24 HOUR EMERGENCY PHONE: INFOTRAC +1-352-323-3500

SAFETY DATA SHEET COORDINATOR: Manuel Hernandez +1-347-634-5388

DISTRIBUTION:

NORTH AMERICA:

Trinity Shields LLC
Frisco, TX, USA

UNITED KINGDOM:

SCH Technologies Limited
Barnsley, South Yorkshire, UK

EUROPE (EX UK):

EuroGluePartner UG
Germany

Section 2: HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Specific target organ toxicity (repeated exposure) Category 2

Flammable liquids Category 3

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Flam. Liq. 2; H225

STOR SE 2: H336

Classification in accordance with Directive 67-547-EEC or 1999/45/EC

F; R11

R66

R67

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Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms



Signal Word

Danger

Hazard Statements

H225 - Flammable liquid and vapor
H336 - May cause drowsiness and dizziness
EUHO66 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements – Prevention

P362 – Take off contaminated clothing and wash before reuse
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P242 + P243 - Take precautionary measures against static discharge and use only non-sparking tools

Precautionary Statements - Response

P332 + P313 - IF exposed or concerned: Get medical advice/attention
P305 + P352 + P358 IF IN EYES: 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
P302 + P352: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse
P304 + P340 – IF INHALED: Move victim to fresh air and keep at rest in position comfortable for breathing
P301 + P330 + P312 – If swallowed, immediately rinse mouth and call POISON CONTROL.
P331 – Do NOT induce vomiting
P370 - In case of fire: Use CO₂, dry chemical, or foam to extinguish

Precautionary Statements - Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

P501 - Dispose of contents/container to industrial incineration plant
P501 - Dispose of in accordance with federal, state and local regulations

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Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS #	INGREDIENT % RANGE
Modified Alkyd Resin	Proprietary*	30 - 50
n-Butyl Acetate	123-86-4	10 - 30
Tert-Butyl Acetate	540-88-5	10 - 30
Isobutyl Acetate	110-19-0	10 - 30

*If CAS number is "Proprietary", the specific chemical identity has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

GENERAL INFORMATION:	Immediate medical attention is required. Show this data sheet to the doctor in attendance. If symptoms persist, call a physician.
EYE CONTACT:	Immediately flush eyes with large quantities of clean water, also under the eyelids. Keep eyes wide open while rinsing. If symptoms persist, call a physician.
SKIN CONTACT:	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Get medical attention if irritation develops or persists.
INGESTION:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth, Drink plenty of water. If symptoms persist, call a physician.
INHALATION:	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO₂), Foam, Dry chemical.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical Flammable. Vapors may form explosive mixture with air. Vapors may travel To source of ignition and flash back.

Explosion Data:

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	Yes

Combustion/Explosion Hazards Cool closed containers exposed to fire with water spray. As in any fire, wear self-contained Breathing apparatus maybe be required. DO NOT ALLOW RUN-OFF WATER FROM FIRE FIGHTING TO ENTER DRAINS OR WATER CORUSES. Wear protective clothing.

Protective Equipment and Precautions for Firefighters:

Cool closed containers exposed to fire with water spray. As in any fire, wear self-contained breathing apparatus maybe be required. DO NOT ALLOW RUN-OFF WATER FROM FIRE FIGHTING TO ENTER DRAINS OR WATER CORUSES. Wear protective clothing.



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Section 6: ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Keep people away and upwind of spills.
- Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer systems. Avoid release into the environment. Dispose of contents/containers to an approved waste disposal plant. See Section 12 for addition Ecological information.
- Methods for Containment:** Prevent further leakage or spillage if safe to do so.
- Methods for Cleaning Up:** Dam up. Take up with sand, earth or other noncombustible absorbent materials. Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

Section 7: HANDLING AND STORAGE

- Handling:** Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and ignition. Take precautionary measures against static discharge. Use only in an area containing flame proof equipment. Do not breathe vapors or spray mist. Ensure adequate ventilation. To avoid ignition of vapors by static electric discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product.
- Conditions for safe storage:** Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well ventilated place.
- Incompatible Products:** Strong oxidizing agents.

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Section 8: EXPOSURES CONTROLS / PERSONAL PROTECTION

n-Butyl Acetate (CAS #: 123-86-4, EC No. 204-658-1)

ACGIH TLV	150 ppm TWA
	200 ppm STEL
OSHA PEL	150 ppm TWA
	710 mg/m ³ TWA
NIOSH IDLH	200 ppm STEL
	950 mg/m ³ STEL
	150 ppm TWA
	710 mg/m ³ TWA
	100 ppm TWA
	1700 ppm IDLH

Tert-Butyl Acetate (CAS #: 540-88-5, EC No. 208-760-7)

ACGIH TLV	20 ppm TWA
OSHA PEL	200 ppm TWA
	950 mg/m ³ TWA
NIOSH IDLH	1500 ppm IDLH
	200 ppm TWA
	950 mg/m ³ TWA

Isobutyl Acetate (CAS #: 110-19-0, EC No. 202-849-4)

ACGIH TLV	15 ppm TWA
OSHA PEL	150 ppm TWA
	700 mg/m ³ TWA
NIOSH IDLH	1300 ppm IDHL
	150 ppm
	700 mg/m ³ TWA

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Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

TLV® (Threshold Limit Value)

TWA (time-weighted average)

STEL - Short Term Exposure Limit

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

OEL - Occupational Exposure Limit

NIOSH - National Institute for Occupational Safety and Health

IDLH - Immediately Dangerous to Life or Health

SKIN: Skin Absorption

Appropriate engineering controls

Engineering Controls

Use general ventilation to maintain airborne concentrations to levels that are below regulatory and recommended occupational exposure limits. Local ventilation may be required during certain operations. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Eye/face Protection

Tight sealing safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection

Wear protective nitrile or rubber gloves. Impervious clothing and Boots. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Respiratory Protection

None required if hazards have been assessed and airborne concentrations are maintained below the exposure limits listed in Section 8. Wear an approved air-purifying respirator with organic vapor cartridges where airborne concentrations may exceed exposure limits in Section 8. Use an approved positive-pressure air-supplied respirator with emergency escape provisions if there is any potential for an uncontrolled release, airborne concentrations are not known, or any other circumstances where air-purifying respirators may not provide adequate protection

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Water White Amber
Odor	Solvent
Odor Threshold	
Physical State	Liquid
pH	No information available
Flash Point	16 °C / 61 °F
Flash Point Method:	Seta closed cup
Autoignition Temperature	No information available
Boiling point / boiling range	97.8-127°C
Melting point / Freezing point	No information available
Flammability Limit in Air	
Lower	No information available
Upper	No information available
Specific Gravity	0.95 - 0.97 @ 25°C
Solubility	10 g/l
Evaporation Rate	No information available
Vapor Pressure	4.1 kPa @ 20°C
Vapor Density	3.7-4.1
Explosive Properties	No information available
Oxidizing Properties	No information available
Percent Volatile, wt.%	49 - 51 % by weight
VOC (g/l):	497 g/l (calculated) product as supplied
Viscosity	23-27 seconds @ 25°C with #3 Zahn
Partition Coefficient (n-octanol/water)	No information available
Decomposition temperature	No information available

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Section 10: STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition. Contamination.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide. Carbon dioxide (CO₂). Hydrocarbons.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Primary Routes of Entry Skin Contact, Inhalation, Eye contact, Skin absorption

Acute toxicity**n-Butyl Acetate**

Oral LD50 = 10768 mg/kg (Rat)
 Dermal LD50 > 17600 mg/kg (Rabbit)
 Inhalation LC50 = 391 ppm (Rat) 4 h

Tert-Butyl Acetate

Oral LD50 = 4100 mg/kg (Rat)
 Dermal LD50 > 2 g/kg (Rabbit)
 Inhalation LC50 > 2230 mg/m³ (Rat) 4 h

Isobutyl Acetate

Oral LD50 = 13400 mg/kg (Rat)
 Dermal LD50 > 5000 mg/kg (Rabbit)

1,2,4 Trimethylbenzene

Oral LD50 = 3400 mg/kg (Rat)
 Dermal LD50 > 3160 mg/kg (Rat)
 Inhalation LC50 = 18 g/m³ (4 H) (Rat)

Information on toxicological effects

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Eyes Causes eye irritation.

Skin Irritating to skin. Repeated exposure may cause skin dryness or cracking.

Inhalation Inhalation of vapors in high concentration may cause irritation of respiratory system. Inhalation of high vapor concentrations can cause CNS-depression and narcosis.

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Ingestion	Ingestion (swallowing) may irritate the mouth, throat and stomach. Aspiration into lungs may cause chemical pneumonia and lung damage. Ingestion is not an anticipated route of exposure for this material in industrial use.
Sensitization	No information available.
Repeated dose toxicity	Repeated overexposure to xylene via the inhalation route, has caused a hearing loss in laboratory animals. In humans, styrene may cause a transient decrease in color discrimination and effects on hearing.
Mutagenic effects	No information available.
Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.
Legend	<i>IARC - International Agency for Research on Cancer</i> <i>ACGIH (American Conference of Governmental Industrial Hygienists)</i> <i>NTP - National Toxicology Program</i>
Reproductive Toxicity	No information available.
Developmental Toxicity	High exposures to xylene in some animal studies have been reported to cause health effects on the developing embryo/fetus. These effects were often at levels toxic to the mother. The significance of these findings to humans has not been determined. Ethyl Benzene has been shown to be fetotoxic in laboratory animals at maternally toxic levels.
Teratogenicity	Styrene did not cause birth defects in orally-dosed rats, mice, rabbits and hamsters exposed by inhalation. Styrene given by inhalation for six hours a day during organ development has been shown to be toxic to fetal mice at 250 ppm and to fetal hamsters at 1000 ppm. Information from human experience and the results of animal studies suggest no significant risk of birth defects or reproductive toxicity of styrene to humans.
Neurological Effects	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ(s)	No information available.
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 50% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document.

Oral LD50	12651 mg/kg; Acute toxicity estimate
Dermal LD50	6678 mg/kg; Acute toxicity estimate
Inhalation Vapor	7.3 mg/L; Acute toxicity estimate

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Section 12 ECOLOGICAL INFORMATION

Ecotoxicity**n-Butyl Acetate**

Algae	EC50 = 72 h: = 674.7 mg/L (Desmodesmus subspicatus)
Fish	LC50 = 17-19 mg/L (Pimephales promelas) (96 h) flow-through LC50 = 100 mg/L (Lepomis macrochirus) (96 h) LC50 = 62 mg/L (Lepomis macrochirus) (96 h) static
Microorganisms	EC50 = 70.0 mg/L 5 min EC50 = 82.2 mg/L 15 min EC 50 = 959 mg/L 18 h EC50 = 98.9 mg/L 30 min
Water Flea	EC50 24 h = 72.8 mg/L (Daphina magna)

Tert-Butyl Acetate

Fish	LC50 96 h: 296-362 mg/L flow-through (Pimephales promelas)
Microorganisms	EC50 = 6.38 mg/L 5 min EC50 = 8.04 mg/L 15 min EC50 = 11.1 mg/L 30 min

Isobutyl Acetate

Fish	LC50 48 h: 101-123 mg/L flow-through (Leuciscus idus melanotus) LC50 48 h: 101 mg/L static (Leuciscus idus melanotus)
Water Flea	EC50 24 h = 168 mg/L (Daphina magna)

Unknown aquatic toxicity

90.4% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence/Degradability

No information available.

Bioaccumulation

Chemical Name	Log Pow
n-Butyl Acetate	1.81
Tert-Butyl Acetate	1.38
Isobutyl Acetate	1.72

Other adverse effects

No information available.

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Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Considerations

Hazardous waste. Can be incinerated, when in compliance with local regulations. RCRA HAZARDOUS WASTE: This material and containers that are not empty, if discarded, would be regulated as a hazardous waste under RCRA. Treatment and/or disposal must be completed at a RCRA-permitted Treatment, Storage and Disposal Facility (TSD). The storage and transportation of RCRA hazardous wastes are also regulated by the USEPA.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal. "Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

US EPA Waste Number

D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

Section 14: TRANSPORT INFORMATION

DOT

UN-No	UN1866
Proper Shipping Name	RESIN SOLUTION
Hazard Class	3
Packing Group	III
NAERG:	127

TDG

UN-No	UN1866
Proper Shipping Name	RESIN SOLUTION
Hazard Class	CLASS 3
Packing Group	PG III
NAERG:	127

MEX

UN-No	UN1866
Proper Shipping Name	RESIN SOLUTION
Hazard Class	CLASS 3
Packing Group	PG III
NAERG:	127

IATA

UN-No	UN1866
Proper Shipping Name	RESIN SOLUTION
Hazard Class	3
Packing Group	III
Packing Instructions	355; 366
NAERG:	127

IMDG/IMO

UN-No	UN1866
Proper Shipping Name	RESIN SOLUTION
Hazard Class	CLASS 3
Packing Group	PG III
EmS-No	F-E, S-E
NAERG:	127

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Section 15: REGULATORY INFORMATION

International Inventories

TSCA Inventory Status:	All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.
Canadian Inventory Status:	All components of this material are listed on the Canadian Domestic Substances List (DSL)
Australian Inventory Status:	This product contains one or more chemicals currently not on the Australian Inventory of Chemical Substances
Korean Inventory Status:	This product contains only chemicals which are currently listed on the Korean Chemical Substances List
Philippine Inventory:	All components of this material are listed on or are exempt from the Philippine Inventory of Chemicals and Chemical Substances
Japan ENCS:	This product contains one or more chemicals currently not on the Japanese Inventory of Existing and New Chemical Substances
Chinese IECS:	This product contains only chemicals that are currently listed on the Chinese Inventory of Existing Chemical Substances
New Zealand Inventory:	This product contains one or more chemicals currently not on the New Zealand Inventory of Chemicals

US Federal Regulations**TSCA 12(b) - Export Notification:**

This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	CAS No	Weight-%	<u>SARA 313 Status</u>
Xylene	1330-20-7	39 - 41	Listed
Ethylbenzene	100-41-4	8.5 - 10.5	Listed
Toluene	108-88-3	0.4 - 0.5	Listed

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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Clean Water Act

This product contains the following listed substances:

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-Butyl Acetate	5000 lb			Listed
Tert-Butyl Acetate				Listed
Isobutyl Acetate				Listed

Chemical Weapons Convention (CWC)

This product does not contain any listed substances.

State Regulations**California Proposition 65**

WARNING: This material contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. The California Safe Drinking Water and Toxic Enforcement Act of 1986 requires that clear and reasonable warning be given prior to exposing any person to this chemical.

Canada

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	RQ	Extremely Hazardous RQs
u-Butyl Acetate	RQ 5000 lb final RQ RQ 2270 kg final RQ	
Tert-Butyl Acetate	RQ 5000 lb final RQ RQ 2270 kg final RQ	
Isobutyl Acetate	RQ 5000 lb final RQ RQ 2270 kg final RQ	

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Section 16: OTHER INFORMATION

NFPA Rating

Health 2

Flammability 3

Instability 0

Prepared By

Regulatory Department

Revision Date:

17/Sep/2015

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information, STOT - Specific Target Organ Toxicity

The information on this safety data sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product, or where instructions and recommendations are not followed. The user assumes all risks incident to the use of the product and must communicate to employees and customers all warnings that relate to the potential exposure to this product. It is the responsibility of the user to comply with all Federal, State, and Local laws, regulations, and ordinances, and to assure that all workplace and disposal practices are in compliance with such. ALL WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED. IN NO EVENT SHALL THE SUPPLIER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.