

## 1. Identification

<b>Product identifier</b>	<b>Twine Transparent Ink - TTI</b>	
<b>Other means of identification</b>	None.	
<b>Recommended use</b>	Digital thread dyeing.	
<b>Recommended restrictions</b>	To be used with Twine Solutions systems only.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>	Twine Solutions Ltd.	
<b>Address</b>	7 Hatnufa Street (Kodak Building) Petach-Tiqua - 4951025, Israel	
<b>Telephone</b>	+972-35589505	
<b>Website</b>	www.twine-s.com	
<b>E-mail</b>	info@twine-s.com	
<b>Importer</b>	Henderson Sewing Machine Co., Inc.	
<b>Address</b>	1 Waits Drive Industrial Park Andalusia, Alabama 36421, USA	
<b>Emergency telephone number</b>	+1 866 519 4752 (US & Canada)  +1 760 476 3971 (Non-region specific) Access Code: 335607	

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 4
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Combustible liquid. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from flames and hot surfaces. - No smoking. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection.
<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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. In case of fire: Use alcohol resistant foam, carbon dioxide, dry powder or water fog to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Proprietary ingredient 1	Proprietary	<70
Proprietary ingredient 2	Proprietary	<70

**Composition comments** The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.  
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.
<b>Skin contact</b>	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, hazardous combustion products are released that may include: Carbon oxides.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Combustible liquid.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.  Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. Do not taste or swallow. Avoid inhalation of vapors and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Proprietary ingredient 1	TWA	44.2 mg/m <sup>3</sup> 10 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Gloves for full contact: Viton. Incidental contact: Glove material: Butyl rubber or Neoprene. Use gloves with breakthrough time of 480 (butyl rubber) minutes. Minimum glove thickness 0.7 mm. Other suitable gloves can be recommended by the glove supplier.

#### Skin protection

##### Other

Wear appropriate chemical resistant clothing.

#### Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

#### Physical state

Liquid.

#### Form

Liquid.

#### Color

Clear, colorless to pale yellow.

#### Odor

Fruity, mild, sweet.

#### Odor threshold

2 - 5 ppm

#### pH

Not determined.

#### Melting point/freezing point

4.28 - 25.52 °F (-15.4 - -3.6 °C) @ 1013 hPa

#### Initial boiling point and boiling range

395.6 - 402.8 °F (202 - 206 °C)

#### Flash point

179.6 °F (82 °C) (Lowest Flashing Component)

#### Evaporation rate

0.007 (Butyl acetate = 1)

#### Flammability (solid, gas)

Not applicable.

## Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** 1.3 % v/v

**Explosive limit - upper (%)** 13 % v/v

**Vapor pressure** 0.07 - 0.36 hPa (68 - 77 °F (20 - 25 °C))

**Vapor density** 3.7 (Air=1)

**Relative density** 1.06 (Water=1) (68°F, 20°C)

## Solubility(ies)

**Solubility (water)** 1ml / 30ml water

**Partition coefficient (n-octanol/water)** 1.05 (68°F, 20°C) Bioaccumulation is not expected.

**Auto-ignition temperature** 816.8 °F (436 °C) @ 1013 hPa

**Decomposition temperature** Not determined.

**Viscosity** 1 - 10 cP (77 °F (25 °C))

## Other information

**Density** 1.060 g/ml (1.043-1.090 g/ml) (68°F, 20°C)

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** Thermal decomposition of this product can generate carbon monoxide and carbon dioxide.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye irritation.

**Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

Components	Species	Test Results
Proprietary ingredient 1 (CAS Proprietary)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg
<b>Inhalation</b>		
<i>Aerosol</i>		
LC50	Rat	> 4178 mg/m <sup>3</sup> , 4 Hours
<b>Oral</b>		
LD50	Rat	1620 mg/kg

Components	Species	Test Results
Proprietary ingredient 2 (CAS Proprietary)		
<b>Acute</b>		
<b>Oral</b>		
LC50	Rat	1000 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Not listed.		
<b>NTP Report on Carcinogens</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful.	
<b>Further information</b>	No other specific acute or chronic health impact noted.	

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Proprietary ingredient 1 (CAS Proprietary)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 460 mg/l, 96 hours
Proprietary ingredient 2 (CAS Proprietary)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna > 102.2 mg/l, 48 hours
<b>Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.	
<b>Bioaccumulative potential</b>		
<b>Partition coefficient n-octanol / water (log Kow)</b>		
Twine Transparent Ink - TTI	1.05 (68°F, 20°C), Bioaccumulation is not expected.	
Proprietary ingredient 1	1.1	
<b>Mobility in soil</b>	No data available for this product.	
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

This material is classified as a combustible liquid when shipped in bulk packaging >119 G/450 L.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

**Toxic Substances Control Act (TSCA)** All components of the mixture on the TSCA 8(b) inventory are designated "active".

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

### US state regulations

#### US. Massachusetts RTK - Substance List

Proprietary ingredient 1 (CAS Proprietary)

#### US. New Jersey Worker and Community Right-to-Know Act

Not listed.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Proprietary ingredient 1 (CAS Proprietary)

**US. Rhode Island RTK**

Not regulated.

**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	17-April-2019
<b>Revision date</b>	14-December-2021
<b>Version #</b>	02
<b>Further information</b>	D - Face Shield, Gloves, Apron
<b>HMIS® ratings</b>	Health: 2 Flammability: 2 Physical hazard: 0 Personal protection: D
<b>Disclaimer</b>	Twine Solutions LTD cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.