



# SAFETY DATA SHEET

TO COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR.1910.1200 & THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

## 1. Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product Identifier

Product Form: Substance

Substance Name: TotalBoat Polyester Laminating/Finishing Resin

Product Code(s): TB-FIB553Q, TB-FIB552G, TB-FIB540Q, TB-FIB541G

Synonyms: Not Available

### 1.2 Chemical Formula

$C_{15}H_{16}$

1+ DYW\ Ua 8 f]j Y

6 f]glt`, F= \$&, \$-

T %, \$\$-(- +-\$%\$

F %(\$%&) (-), &

### 1.3 Emergency Telephone Number

☎: CTR5 C: %800-) ' )- \$)'

## 2. Hazards Identification

### 2.1 Classification of the Substance or Mixture

Health Hazard: 2\*

Flammability Hazard: 3

Physical Hazard: 1

Hazard Codes: \*=Chronic Hazard---0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

### 2.2 Label Elements

Most important hazards:

Flammable liquid and vapor.

May be harmful if swallowed

May be harmful if inhaled

Causes skin irritation

Causes eye irritation

Suspected of causing genetic defects

Suspected of causing cancer

Suspected of damaging fertility or the unborn child

May cause respiratory irritation and damage to the central and

peripheral nervous system and respiratory tract through prolonged or repeated exposure  
Toxic to aquatic life.

**Adverse effects to the human health:** It can cause central and peripheral nervous system effects, can cause chemical pneumonitis if inhaled and gastrointestinal disturbances

**Environmental effects:** Dangerous to aquatic life

**Physical and chemical hazards:** Flammable product. Containers may explode when heated. When heated, may release toxic and irritating fumes

**GHS-US Labeling:**



**Signal Word (GHS-US):**

DANGER

**Hazard Statement:**

H226-Flammable liquid vapor  
H315-Causes skin irritation  
H319-Causes serious eye irritation  
H341-Suspected of causing genetic defects  
H351-Suspected of causing cancer  
H361-Suspected of damaging fertility or the unborn child  
H370-Causes damage to the central and peripheral nervous system  
H335-May cause respiratory irritation  
H336-May cause drowsiness or dizziness  
H373-May cause damage to the central and peripheral nervous system and respiratory tract through prolonged or repeated exposure  
H304-May be fatal if swallowed and enters airways

**Precautionary Statements (GHS-US)**

P210-Keep away from heat/sparks/open flames/hot surfaces.  
NO smoking  
P233-Keep container tightly closed  
P240-Ground/bond container and receiving equipment  
P241-Use explosion-proof electrical/ventilating/lighting/equipment  
P242-Use only non-sparking tools  
P243-Take precautionary measures against static discharge  
P280-Wear protective gloves/protective clothing/eye protection/face protection  
P264-Wash with water thoroughly after handling  
P201-Obtain special instructions before use  
P202-Do not handle until all safety precautions have been read and understood  
P260-Do not breathe dust/fumes/gas/mist/vapors/spray  
P270-Do not eat, drink or smoke when using this product  
P261-Avoid breathing dust/fumes/gas/mist/vapors/spray  
P270-Use only outdoors or in a well-ventilated area

**Symbol:**

**Risk Phrases:**

Xi, Xn, T, T+  
R10-Flammable  
R38-Irritating to skin  
R36-Irritating to eyes  
R68-Possible risk of irreversible effects  
R40-Limited evidence of a carcinogenic effect  
R60 & T R61-May impair fertility. May cause harm to the unborn child  
T+, R39-Danger of very serious irreversible effects  
R37, R67-Irritating to respiratory system. Vapors may cause drowsiness and dizziness  
R48-Danger of serious damage to health by prolonged exposure  
R65-Harmful: May cause lung damage if swallowed  
S3-Keep in a cool place

**Safety Phrases:**

S9-Keep container in a well-ventilated place  
 S13-Keep away from food, drink and animal food  
 S16-Keep away from sources of ignition-NO smoking  
 S24-Avoid contact with skin  
 S25-Avoid contact with eyes  
 S29-Do not empty into drains  
 S36-Wear suitable protective clothing  
 S37-Wear suitable gloves  
 S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
 S56-Dispose of this material and its container to hazardous or special waste collection point

**2.3 Other Hazards**

Other hazards not contributing to the classification:

Styrene Monomer

**2.4 Unknown Acute Toxicity (GHS-US)**

No Data Available

### 3. Composition/Information on Ingredients

**3.1. Substances**

Component	CAS Number	Concentration (%)
Unsaturated Polyester	NA(mixture)	54-65
Styrene Monomer	100-42-5	35-46

### 4. First Aid Measures

**4.1. First Aid Measures**

**Inhalation:**

No risks concerning inhalation at room temperature. Remove the victim to fresh air. Monitor respiratory function. If there is breathing difficulty, provide oxygen. If necessary, give artificial respiration. Seek medical attention.

**Ingestion:**

Rinse the victim's mouth out with water. Provide plenty of water for the victim to drink if he/she is conscious. Seek medical attention.

**Skin Contact:**

Remove contaminated clothing and shoes. Wash affected area with water and soap. Wash contaminated clothing and shoes before reuse. Seek medical attention.

**Eye Contact:**

Wash eyes immediately with running water, keeping the eyelids open. Remove contact lenses if present and easily removable. Seek medical attention.

**Most important symptoms and effects:**

Redness and pain in the skin. Redness, pain, and watery eyes. Cough, sore throat, difficulty breathing, nausea, abdominal pain and diarrhea. Fatigue, muscle weakness, feeling of drunkenness, dizziness, drowsiness, headaches and incoordination. Difficulty concentrating and remembering. It can affect balance, the ability to learn and time of reflection.

**Notes for physician:**

Avoid contact with the product while helping the victim. Keep victim heated and at rest. Symptomatic treatment should include, above all, supportive measures such as correction or electrolyte, metabolic and respiratory abnormalities.

### 5. Fire Fighting Measures

### **5.1. Extinguishing Media**

Flammable product. compatible with any means of extinction as dry chemical, alcohol resistant foam and water mist.

### **5.2. Special Hazards Arising from the Substance or Mixture**

When in fire, may produce irritating and toxic gases like carbon monoxide and dioxide

### **5.3. Advice for Firefighters**

Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

### **5.4. Special Hazards from the Combustion of the Chemical**

In combustion, can form toxic and irritant gases such as carbon monoxide and carbon dioxide. Releases gases and/or fumes when heated and they might be respiratory sensitizers.

## **6. Accidental Release Measures**

### **6.1. Removal of Ignition Sources**

Flammable product. Eliminate preventively all the ignition sources around the area. Do not smoke.

### **6.2. Provision of Enough Ventilation**

Use in a well-ventilated area or with exhaustion system adequate to eliminate mists and vapors

### **6.3. Prevention of Inhalation and Skin, Mucous Membranes and Eyes Contact**

Do not touch damage containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation, eye and skin contact. Use appropriate personal protective equipment as indicated in Section 8

### **6.4. Environmental Precautions**

Do not let this chemical enter the environment (soil, waterways and groundwater).

### **6.5. Methods and Material for Containment and Cleaning Up**

Use water fog or vapor suppressing foam to reduce the spread of fumes use physical barriers or containment of spills. Collect spilled material and place into containers. Absorb the remaining product with sand, earth, vermiculite or other inert material. Place absorbed material in appropriate containers and remove to safe place.

## **7. Handling and Storage**

### **7.1. Precautions for Safe Handling**

Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources or ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum re-conditioner or properly disposed.

### **7.2. Conditions for Safe Storage, Including Any Incompatibilities**

Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store in direct sunlight. Store separate from oxidizing material, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 75°F (25°C). copper or copper containing alloys should be avoided as containers.

### **7.3. Hygiene Advice**

Do not eat, drink or smoke when using this product. wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

### **7.4. Packing Materials**

Metals should not be used.

## **8. Exposure Controls/Personal Protection**

### 8.1. Control Parameters

Component	CAS Number	%	Exposure Limits	Source
Styrene Monomer	100-42-5	35-46	20ppm TLV-TWA 50ppm 8hr PEL 85mg/m <sup>3</sup> TLV 50mg/m <sup>3</sup> 8hr PEL 75mg/m <sup>3</sup> 15min PEL	ACGIH OSHA ACGIH WCB WCB

**Biological indicators:** BEI: Mandelic acid + Fenilglioilic acid in urine-400 mg/g creatinine  
**Appropriate engineering controls:** Provide mechanical ventilation or direct exhaust to the external media. It is recommended safety shower and eye bath available near working area. The engineering controls measures are the most effective to reduce exposure to the product.

### 8.2. Exposure Controls

**Eye/Face protection:** Wear 1) safety glasses with side shields and a face-shield or 2) goggles and a face-shield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower

**Respiratory protection:** A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

**Thermal Hazard:** Complete air-ventilated suit, with air supply, or any thermo-resistant clothing available.

**Environmental exposure controls:** Do not dump directly into the environment or into the sewer system. The dilution water from tire fighting can cause pollution.

## 9. Physical and Chemical Properties

### 9.1. Information on Basic Physical and Chemical Properties

**Physical state:** Liquid  
**Color:** Blue  
**Odor:** Styrene Odor  
**Odor Threshold:** NA  
**pH:** NA  
**Relative evaporation rate (butylacetate=1):** NA  
**Melting Point:** NA  
**Freezing Point:** NA  
**Boiling point:** 293.2°F (145.1°C)  
**Flash point:** 88°F (31°)  
**Self-ignition Temperature:** 914°F (490°C)  
**Decomposition Temperature:** NA  
**Flammability (solid, gas):** NA  
**Vapor pressure:** 7mm Hg  
**Relative vapor density at 20°:** 4.5 mm Hg  
**Relative density:** 1.05-1.30 (water=1)  
**Solubility:** Insoluble  
**Log Pow:** NA

Log Kow:	NA
Viscosity, kinematic:	NA
Viscosity, dynamic:	NA
Explosive properties:	NA
Oxidizing properties:	NA
Explosive Limits:	Upper-8.8% Lower-.88%

## 9.2. Other Information

None available

## 10. Stability and Reactivity

### 10.1. Hazardous Polymerization

May polymerize violently with risk of fire and explosion. Uninhibited styrene, or styrene with low inhibitor concentration, polymerizes slowly at room temperature and on exposure to light and air, and readily at elevated temperatures, greater than 149°F (65°C). Polymerization becomes self-sustaining above 203°F (95°C). Metal salts (e.g. ferric or aluminum chloride), peroxides, oxidizers and strong acids may also cause polymerization.

### 10.2. Chemical Stability

This product is stable

### 10.3. Conditions to Avoid

Elevated temperatures, heat, sparks, open flame and other ignition sources.

### 10.4. Incompatible Materials

Oxygen, oxidizing agents-Increased risk of fire and explosion. Can form explosive peroxides. Strong acids (e.g. sulfuric acid, oleum, chlorosulfonic acid) – Increased temperature and pressure; increased risk of fire and explosion. Alkali metal, graphite compounds, metallic halide salts, peroxides (dibenzoyl peroxide di-tertbutyl peroxide), azoisobutyronitrile-Can initiate polymerization. Byllithium- Explosion can occur. Halogens-Can react with low concentrations of halogens, in the presence of UV light, to form a strong irritant. Can form peroxides in the presence of light and air or on contact with acids. Styrene monomer has been involved in several plant-scale explosions when stored inappropriately or accidentally heated

### 10.5. Hazardous Decomposition Products

Styrene Oxide

## 11. Toxicological Information

### 11.1. Information on Toxicological Effects

Likely routes of exposure: Inhalation, skin and eye contact

Acute Exposure (LD50): Styrene Monomer 5000 mg/kg (oral/rat)

Acute Exposure (LC50): Styrene Monomer 5640 ppm (rat, 4hrs exposure)

#### Symptoms related to the physical, chemical and toxicological characteristics:

Acute Eye Toxicity: Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the eyes. Styrene causes transient moderate eye irritation without corneal involvement.

Acute Inhalation Toxicity: Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the upper respiratory tract.

#### Delayed and immediate effects and also chronic effects from short and long term exposure:

Sub-chronic: Overexposure to styrene has been suggested as a cause of the following effects in laboratory animals and may aggravate pre-existing disorders of the following organs in humans; mild, reversible kidney effects, effects on hearing, respiratory tract damage, testis damage and liver damage

Chronic/Carcinogenicity: The International Agency for Research on Cancer (IARC) has classified styrene in Group 1B, possibly carcinogenic to humans. IARC concluded that evidence of carcinogenicity from human health studies, was inadequate and based the classification on animal and other relevant data. IARC considered the combined results of these cancer studies to provide "limited evidence" of carcinogenicity. The relevance of these findings is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.

Teratology: 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.

Mutagenicity: Styrene has given mixed positive and negative results in a number of mutagenicity tests. It was not mutagenic in the Ames test without metabolic activation but gave negative and positive mutagenic results with metabolic activation. It has also given negative mutagenic results in the Chinese Hamster Ovary Test, and the Forward Gene Mutation Test and positive results in the Sister Chromatid Exchange and the Chromosomal Aberration Assay.

## 12. Ecological Information

### 12.1. Toxicity

Component	CAS No.	%	Test	Concentration	Result	Species
Styrene	100-42-5	35-46	LC50	23 mg/l	48 hrs	Daphnia Magna

### 12.2. Persistence and Degradability

This material contains components that show little or no evidence of biodegradability. Great Caution should be taken to prevent release to the environment. See section 13 for further information.

### 12.3. Bio-Accumulative Potential

NA

### 12.4. Mobility in Soil

NA

### 12.5. Other Adverse Effects

NA

## 13. Disposal Considerations

### 13.1. Waste Treatment Methods

Preferred method of disposal:

Includes incineration under controlled conditions in accordance with all local and national laws and regulations. The generation of waste should be avoided or minimized wherever possible. Untreated material is not suitable for disposal. Waste, even small quantities, should never be poured down drains, sewers or water courses. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Contaminated Packaging:

Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container walls.

## 14. Transport Information

#### 14.1 UN Number

UN-No. (DOT): 1866

#### 14.2 UN Proper Shipping Name

DOT Proper Shipping Name: Resin Solution  
DOT Hazard Class: 3-Class 3-Flammable and combustible liquid  
49 CFR 173.120



Hazard Labels (DOT):  
DOT Special Provisions  
(49 CFR 172.102): B1, B52, IB3, T2, TP1  
Packing Group (DOT): III  
DOT Packaging Exceptions: 150  
DOT Packaging Non Bulk: 173  
DOT Packaging Bulk: 242

#### 14.3 Additional Information

Other Information: No supplementary information available  
State during transport (ADR-RID): As liquid

##### Overland Transport

Proper Shipping Name: Resin Solution  
Packing Group: III  
Class: 3-Flammable Liquids  
UN Number: UN1866

##### Transport by Sea

Proper Shipping Name: Resin Solution  
Packing Group: III  
Class: 3-Flammable Liquids  
UN Number: UN1866  
Marine Pollutant: No  
EmS: F-E, S-E, Stowage Category "A"

##### Air Transport

Proper Shipping Name: Resin Solution  
Packing Group: III  
Class: 3-Flammable Liquids  
UN Number: UN1866

## 15. Regulatory Information

#### 15.1. US Federal Regulations

29 CFR 1910.1200: Hazardous  
40 CFR 116-117: Hazardous  
40 CFR 355, Appendices A and B: Not subject to Emergency Planning and Notification  
40 CFR 372: Listed  
40 CFR 302: Listed, Reportable Quantity-1000lbs (454kg)

##### EU-Regulations

No Restrictions

##### Occupational Safety and Health Act (OSHA)

This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

##### SARA Title III: Section 304-CERCLA

Styrene Monomer (CAS# 100-42-5): Reportable Quantity= 1000 lb

##### SARA Title III: Section 311/312- Hazard Communication Standard (HCS)



This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, FLAMMABILITY HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act Section 311/312)

**SARA Title III: Section 313 Toxic Chemical List (TCL)**

Styrene Monomer (CAS# 100-42-5)

**TSCA Section 8(b)-Inventory Status**

All components of this material are listed on the Toxic Substances Control Act (TSCA) inventory

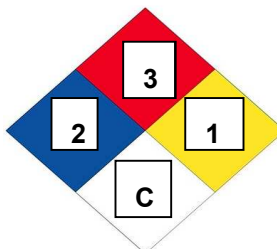
**TSCA Section 12(b)-Export Notification**

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

## 15. Other Information

**Full text of H-phrases:**

<b>Acute Tox. 3 (Dermal)</b>	<b>Acute toxicity (dermal), Category 3</b>
<b>Acute Tox. 4 (Oral)</b>	<b>Acute toxicity (oral), Category 4</b>
<b>Eye Irrit. 2A</b>	<b>Serious eye damage/eye irritation, Category 2A</b>
<b>Flam. Liq. 2</b>	<b>Flammable liquids, Category 2</b>
<b>Flam. Liq. 3</b>	<b>Flammable liquids, Category 3</b>
<b>STOT SE 3</b>	<b>Specific target organ toxicity-Single exposure, Category 3, Narcosis</b>
<b>H225</b>	<b>Highly flammable liquid and vapor</b>
<b>H226</b>	<b>Flammable liquid and vapor</b>
<b>H302</b>	<b>Harmful if swallowed</b>
<b>H311</b>	<b>Toxic in contact with skin</b>
<b>H319</b>	<b>Causes serious eye irritation</b>
<b>H336</b>	<b>May cause drowsiness or dizziness</b>



**HMIS III Rating**

**Health:** 2-Moderate Hazard  
**Flammability:** 3-Serious Hazard  
**Physical:** 1-Slight Hazard  
**Personal Protection:** C

**“Warning: This product may contain trace amounts of some chemicals considered by the State of California to be carcinogens or reproductive Toxicants.”**

**Preparation Date: 7/14/2017**

*Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and the user must determine suitability of this information for his application.*