

# TECH LINE Coatings

## SAFETY DATA SHEET

### Section 1 – Identification

**Product Identifier:** Polyphen Combustion Chamber Coating

**Part Number:** PTBL-TL

**Recommended Use:** Thin film Thermal Barrier Coating

**Restrictions on Use:**

**Manufacturer / Supplier:**

Tech Line Coatings, Inc  
26844 ADAMS AVE.  
MURRIETA, CA 92562  
USA  
Phone/Fax 1-865-773-0597  
www.techlinecoatings.com

**Keep out of reach of children.  
For Industrial Use Only  
Not recommended for use on Medical equipment.  
Not recommended for use on Aviation equipment.**

**Emergency Phone:** N. America +1-800-535-5053  
Intl. +1-352-323-3500

### Section 2 – Hazards Identification

**Signal Word:** Danger

**Symbols:**



#### Hazard Statements:

Highly Flammable Liquid and Vapor  
Harmful if Swallowed  
Harmful if Inhaled  
Causes Skin Irritation  
Causes Serious Eye Irritation  
Suspected of causing cancer  
Suspected of causing genetic defects  
Suspected of damaging fertility or the unborn child

#### GHS Classification:

| GHS Classification:       | Category |
|---------------------------|----------|
| Flammable Liquid          | 2        |
| Acute Toxicity Oral       | 3        |
| Acute Toxicity Dermal     | 3        |
| Acute Toxicity Inhalation | 3        |
| Skin Irritation           | 2        |
| Eye Irritation            | 2A       |
| Carcinogenicity           | 2        |
| Germ Cell Mutagenicity    | 2        |
| Reproductive Toxicity     | 2        |

#### Precautionary Statements:

Keep away from heat / sparks / open flames / hot surfaces. - No Smoking. Ground / bond container and receiving equipment. Use explosion proof electrical / ventilating / lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

In case of fire use alcohol-resistant foam, dry chemical or carbon dioxide

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Wear protective gloves / protective clothing (chemical proof). Wear eye protection and face protection. Wash hands, face and any exposed skin thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat drink or smoke when using this product. Do not breath fumes / mist / vapors / spray. Use only outdoors or in a well ventilated area.

If swallowed: immediately call a poison center / doctor for medical advice. Rinse mouth with water.

If on skin (or hair): wash with plenty of water. Call a poison center / doctor if you feel unwell or if irritation occurs. Immediately take off all contaminated clothing and wash it before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center / doctor for medical advice.

If in eyes: Rinse cautiously in water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advise / attention.

If exposed or concerned: Get medical advise / attention, from a poison center / doctor.

Dispose of Contents / container in accordance with regulations in your area. See section 13 for additional information.

### **Section 3 – Composition / Information On Ingredients**

| <b>Component Name</b> | <b>Common Name / Synonyms</b> | <b>CAS#</b> | <b>% of Weight</b> |
|-----------------------|-------------------------------|-------------|--------------------|
| Ethanol               | Ethyl Alcohol                 | 64-17-5     | 30 - 40%           |
| Methyl Ethyl Ketone   | MEK                           | 78-93-3     | 30 - 35%           |
| Methanol              | Methyl Alcohol                | 67-56-1     | 4 - 5%             |
| Isopropanol           | Isopropyl alcohol             | 67-63-0     | 3 - 4%             |
| Phenol                | Hydroxybenzene                | 108-95-2    | 2 - 3%             |
| Zinc                  |                               | 7440-66-6   | < 1%               |
| Formaldehyde          |                               | 50-00-0     | 0.1 - 0.3%         |
| Dimethyl Phthalate    |                               | 131-11-3    | < 0.1%             |

### **Section 4 – First Aid Measures**

#### **General advise:**

- Consult a physician. Show this Safety Data Sheet to the doctor in attendance. Move out of dangerous area.

#### **After EYE Contact:**

- Immediately irrigate with plenty of water for 15 minutes. Obtain medical attention if irritation persists.

#### **After SKIN Contact:**

- Remove contaminated clothing without delay. Flush skin thoroughly with water. Do not reuse clothing without laundering.

#### **After INHALATION:**

- Administer oxygen if there is difficulty in breathing. Obtain medical attention immediately if necessary.

#### **After SWALLOWING:**

- Call a physician immediately, ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

See section 11 for additional information

Notes to Physician: Treat symptomatically.

### **Section 5 – Fire Fighting Measures**

#### **Extinguishing Media:**

- Water spray, alcohol resistant foam, CO<sub>2</sub>, dry chemical, dry sand. Cool closed containers exposed to fire with water spray.

#### **Special Fire Fighting Procedures:**

- Use full protective equipment, including self contained breathing apparatus

#### **Unusual Fire And Explosion Hazards:**

- During emergency conditions, overexposure to decomposition products may cause a health hazard. Hazardous polymerization may take place if exposed to fire conditions. Water runoff can cause environmental damage, dike and collect water used to fight fire.

#### **Specific Hazards Arising from the Chemical:**

- Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.
- Containers may explode when heated.

## **Section 6 – Accidental Release Measures**

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### **Methods for Containment and Clean Up**

- Turn off all sources of heat or ignition.
- Soak up with inert absorbent material.
- Keep in suitable, marked and closed containers for disposal.
- Use spark-proof tools and explosion-proof equipment.
- Remove sources of ignition.
- Warn other workers of spill.
- Wear protective equipment
  - NIOSH Approved Respirator
  - Gloves
  - Safety Glasses
- Stop leak if you can do so without risk.
- Do not allow material to be released into the environment.
- Retain all contaminated water for removal and treatment. DO NOT flush to sewer.

### **Additional Information:**

- See Section 7 for safe handling information.
- See Section 8 for PPE information
- See Section 13 for disposal information

## **Section 7 – Handling And Storage**

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### **Handling:**

Do not breathe vapors or mists from spraying. Avoid contact with skin and eyes. Use with adequate ventilation to maintain exposure levels below established exposure limits. Wear personal protective equipment. If required wear an appropriate NIOSH approved respirator with paint prefilter. Use explosion-proof equipment. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

### **Storage:**

Store in area suitable for flammable liquids. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Protect from oxidizers, inorganic acids, aldehydes, and isocyanates.

## **SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION**

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| <b>Component</b>    | <b>ACGIH TLV</b> | <b>OSHA PEL</b>            | <b>NIOSH REL</b> |
|---------------------|------------------|----------------------------|------------------|
| Ethanol             | 1000 PPM         | 1000 PPM                   | 1000 PPM         |
| Methyl Ethyl Ketone | 200 PPM          | 200 PPM                    | 200 PPM          |
| Methanol            | 200 PPM          | 200 PPM                    | 200 PPM          |
| Isopropanol         | 200 PPM          | 400 PPM                    | 400 PPM          |
| Phenol              | 5 PPM (SKIN)     | 5 PPM (SKIN)               | 5 PPM (SKIN)     |
| Zinc                | 2 mg/m3          | 5 mg/m3                    | 5 mg/m3          |
| Dimethyl Phthalate  | 5 mg/m3          | 5 mg/m3                    | 5 mg/m3          |
| Formaldehyde        | CEIL 0.3 ppm     | TWA 0.75 ppm<br>STEL 2 ppm | 0.016 ppm        |

### **Engineering Controls:**

Exhaust ventilation.  
Showers  
Eyewash stations

Use in a well-ventilated area.

**Respiratory Protection:** Use NIOSH approved respirator if TWA/TLV limits are exceeded

**Protective Gloves:** CHEMICAL RESISTANT

**Eye Protection:** SAFETY GLASSES WITH SIDE SHIELDS OR GOGGLES

**Other Protective Equipment:** WEAR PROTECTIVE CLOTHING, CHEMICAL RESISTANT OR OTHER PROTECTIVE OUTERWEAR, AVOID CONTACT WITH SKIN OR EYES

**Ventilation:** Local Exhaust: Use To Maintain Below TWA Limits

**Mechanical:** Use Non-Sparking Equipment

**Work / Hygienic Practices:** wash thoroughly after handling product and before eating, drinking or smoking

## **SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

|   |                              |
|---|------------------------------|
| Form :  | liquid                       |
| Color :                                       | Blue                         |
| Odor :  | Strong Alcohol/Solvent Smell |
| Odor Threshold:                               | Not Established              |
| pH :  | Not Established              |
| Melting point / Freezing point:               | Not Established              |
| Initial boiling point :                       | 131 – 280° F                 |
| Flash point :                                 | > 16° F                      |
| Evaporation Rate:                             | Not Established              |
| Upper/lower flammability or explosive limits: | Not Established              |
| Vapor pressure                                | Not Established              |
| Vapor density                                 | Not Established              |
| Relative density                              | Not Established              |
| Solubility(ies)                               | Water: poor                  |
| Partition coefficient: n-octanol/water        | Not Established              |
| Auto-ignition temperature                     | Not Established              |
| Decomposition temperature                     | Not Established              |
| Viscosity                                     | Not Established              |
| Total VOC                                     | 695 g/l                      |

## **SECTION 10 – STABILITY AND REACTIVITY**

**Stability:** STABLE

**Possibility of hazardous reactions:** Hazardous Polymerization: Will not occur.

**Conditions to avoid:** Avoid storage of open containers at elevated temperatures.

**Incompatible Materials:** oxidizers, inorganic acids, aldehydes, and isocyanates

**Hazardous Decomposition Products:** Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Silicon dioxide. Carbon oxides. Formaldehyde.

## **SECTION 11 – TOXICOLOGICAL INFORMATION**

### **Potential Health Effects**

|                        |                 |   |
|------------------------|-----------------|---|
| <b>Inhalation</b>      |                 | Harmful if inhaled. Causes respiratory tract irritation.  |
| <b>Ingestion</b>       |                 | Harmful if swallowed.   |
| <b>Skin</b>            |                 | Causes skin irritation.   |
| <b>Eyes</b>            |                 | Causes eye irritation.  |
| <b>Acute Toxicity</b>  |                 |   |
| Ethanol                | Oral LD50       | LD50 Oral - rat - 7,060 mg/kg<br>Remarks: Lungs, Thorax, or Respiration:Other changes.  |
|                        | Inhalation LC50 | LC50 Inhalation - rat - 10 h - 20000 ppm  |
|                        | Dermal LD50     | no data available   |
| Methyl Ethyl<br>Ketone | Oral LD50       | LD50 Oral - rat - 2,737 mg/kg   |
|                        | Inhalation LC50 | LC50 Inhalation - mouse - 4 h - 32,000 mg/m3<br>LC50 Inhalation - Mammal - 38,000 mg/m3   |
|                        | Dermal LD50     | LD50 Dermal - rabbit - 6,480 mg/kg  |
| Methanol               | Oral LD50       | LDLO Oral - Human - 143 mg/kg<br>Remarks: Lungs, Thorax, or Respiration:Dyspnea. Ingestion may cause<br>gastrointestinal irritation, nausea, vomiting and diarrhea.   |
|                        | Inhalation LC50 | LD50 Oral - rat - 1,187 - 2,769 mg/kg<br>LC50 Inhalation - rat - 4 h - 128.2 mg/l<br>LC50 Inhalation - rat - 6 h - 87.6 mg/l  |
|                        | Dermal LD50     | LD50 Dermal - rabbit - 17,100 mg/kg   |
| Isopropanol            | Oral LD50       | LD50 Oral - rat - 5,045 mg/kg<br>Remarks: Behavioral:Altered sleep time (including change in righting reflex).<br>Behavioral:Somnolence (general depressed activity). |
|                        | Inhalation LC50 | LC50 Inhalation - rat - 8 h - 16000 ppm   |
|                        | Dermal LD50     | LD50 Dermal - rabbit - 12,800 mg/kg   |
| Phenol                 | Oral LD50       | LC50 Inhalation - Rat - 4-hr 4,470 ppm (33.0 mg/l) LD50 Oral - rat - 317.0<br>mg/kg<br>Remarks: Behavioral:Convulsions or effect on seizure threshold.                |
|                        | Inhalation LC50 | LD50 Oral - rat - 410.0 - 650.0 mg/kg<br>LC50 Inhalation - rat - 8 h - 900 mg/m3  |
|                        | Dermal LD50     | LD50 Dermal - rabbit - 630.0 mg/kg  |
| Zinc                   | Oral LD50       | LD50 Oral - mouse - 7,950 mg/kg   |
|                        | Inhalation LC50 | LC50 Inhalation - mouse - 2,500 mg/m3   |
|                        | Dermal LD50     | No data available   |
| Dimethyl<br>Phthalate  | Oral LD50       | LD50 Oral - rat - 8,239 mg/kg   |
|                        | Inhalation LC50 | no data available   |
|                        | Dermal LD50     | LD50 Dermal - rabbit - > 11,940 mg/kg   |
| Formaldehyde           | Oral LD50       | No data available   |
|                        | Inhalation LC50 | No data available   |
|                        | Dermal LD50     | No data available   |

### **Skin Corrosion/Irritation**

Ethanol

Skin - rabbit - Irritating to skin. - 24 h

Methyl Ethyl Ketone

Skin - rabbit - Skin irritation - 24 h

Methanol

Skin - rabbit - No skin irritation

Isopropanol

Skin - rabbit - Mild skin irritation

Phenol

Skin - rabbit - Severe skin irritation - 24 h

Zinc

Skin - rabbit - Mild skin irritation - 24 h

All other

No data available

### **Serious Eye Damage/Eye Irritation**

Ethanol

Eyes - rabbit - Mild eye irritation - 24 h - Draize Test

Methyl Ethyl Ketone

no data available

Methanol

Eyes - rabbit - No eye irritation

Isopropanol

Eyes - rabbit - Eye irritation - 24 h

Phenol

Eyes - rabbit - Severe eye irritation

Zinc

Eyes - rabbit - Mild eye irritation - 24 h

All other

No data available

### **Respiratory Or Skin Sensitization**

No data available

### **Germ Cell Mutagenicity**

Phenol

In vitro tests showed mutagenic effects

Methanol

Genotoxicity in vitro - Ames test - *S. typhimurium* - with and without metabolic activation – negative

Genotoxicity in vitro - in vitro assay - fibroblast - negative

Mutation in mammalian somatic cells.

Genotoxicity in vivo - mouse - male and female - Intraperitoneal – negative

Zinc

Genotoxicity in vitro - Hamster - Embryo

Unscheduled DNA synthesis

Genotoxicity in vitro - Hamster - Embryo

Morphological transformation.

Genotoxicity in vitro - Hamster - Embryo

Sister chromatid exchange

Genotoxicity in vivo - guinea pig - Inhalation

Unscheduled DNA synthesis

All other

No data available

## **Carcinogenicity**

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Phenol)  
1 – Group 1: Carcinogenic to humans (Formaldehyde)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: Reasonably anticipated to be a human carcinogen (Formaldehyde)  
Known to be human carcinogen (Formaldehyde)

OSHA: May Cause Cancer (formaldehyde)

This product contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

## **Reproductive Toxicity**

Ethanol

Reproductive toxicity - Human - female - Oral

Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on

Newborn: Drug dependence.

Methanol

Genotoxicity in vitro - Ames test - *S. typhimurium* - with and without metabolic activation – negative

Genotoxicity in vitro - in vitro assay - fibroblast - negative

Mutation in mammalian somatic cells.

Genotoxicity in vivo - mouse - male and female - Intraperitoneal - negative

Zinc

Developmental Toxicity - rat - Oral

Specific Developmental Abnormalities: Homeostasis

Effects on Newborn: Stillbirth.

Effects on Newborn: Growth statistics (e.g., reduced weight gain). No data available

Dimethyl Phthalate

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

All other

No data available

## **Specific Target Organ Toxicity Single Exposure**

Methyl Ethyl Ketone

May cause drowsiness or dizziness.

Isopropanol

May cause drowsiness or dizziness.

Methanol

Causes damage to organs

All other

No data available

## **Specific Target Organ Toxicity Repeated Or Prolonged Exposure**

Phenol

May cause damage to organs through prolonged or repeated exposure.

All other

No data available

## **Aspiration Hazard**

No data available

## **SECTION 12 – ECOLOGICAL INFORMATION**

**General Comments:** Do not allow material to be released into the environment without proper governmental permits

**Environmental Toxicity:**

## Ethanol

Toxicity to fish No data available

Toxicity to daphnia and other aquatic invertebrates No data available

## Methyl Ethyl Ketone

Toxicity to fish mortality NOEC - *Cyprinodon variegatus* (sheepshead minnow) - 400 mg/l - 96 h  
LC50 - *Pimephales promelas* (fathead minnow) - 3,130 - 3,320 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates LC50 - *Daphnia magna* (Water flea) - > 520 mg/l - 48 h  
EC50 - *Daphnia magna* (Water flea) - 7,060 mg/l - 24 h

## Methanol

Toxicity to fish mortality LC50 - *Lepomis macrochirus* (Bluegill) - 15,400.0 mg/l - 96 h  
NOEC - *Oryzias latipes* - 7,900 mg/l - 200 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - > 10,000.00 mg/l - 48 h

Toxicity to algae Growth inhibition EC50 - *Scenedesmus capricornutum* (fresh water algae) - 22,000.0 mg/l - 96 h

## Isopropanol

Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 9,640.00 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 5,102.00 mg/l - 24 h  
Immobilization EC50 - *Daphnia magna* (Water flea) - 6,851 mg/l - 24 h

Toxicity to algae EC50 - *Desmodesmus subspicatus* (green algae) - > 2,000.00 mg/l - 72 h  
EC50 - Algae - > 1,000.00 mg/l - 24 h

## Phenol

Toxicity to fish LC50 - *Leuciscus idus* (Golden orfe) - 14.00 - 25.00 mg/l - 48 h  
LC50 - *Carassius auratus* (goldfish) - 36.10 - 68.80 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 12.00 mg/l - 24 h  
EC100 - *Daphnia magna* (Water flea) - 100.00 mg/l - 24 h

Toxicity to algae EC50 - *Chlorella vulgaris* (Fresh water algae) - 370.00 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates mortality NOEC - *Daphnia* - 0.004 mg/l - 24 h  
EC50 - *Daphnia magna* (Water flea) - 0.04 - 0.05 mg/l - 48 h

## Zinc

Toxicity to fish LC50 - *Cyprinus carpio* (Carp) - 450 µg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates LC50 - *Daphnia magna* (Water flea) - 0.068 mg/l - 48 h  
mortality NOEC - *Daphnia* (water flea) - 0.101 - 0.14 mg/l - 7 d

## Dimethyl Phthalate

Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 121.00 mg/l - 96 h  
LC50 - *Oncorhynchus mykiss* (rainbow trout) - 56.00 mg/l - 96 h  
LC50 - *Lepomis macrochirus* (Bluegill) - 50.00 mg/l - 96 h  
LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 29.00 mg/l - 96 h  
NOEC - *Oncorhynchus mykiss* (rainbow trout) - 38 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 46.00 mg/l - 48 h



Formaldehyde

Toxicity to fish

No data available

Toxicity to daphnia and other aquatic invertebrates

No data available

**Persistence and degradability**

no data available on mixture

**Bioaccumulative potential**

no data available on mixture

Zinc

Bioaccumulation Algae - 7 d at 16 °C - 5 µg/l

Bioconcentration factor (BCF): 466

**Mobility in soil**

no data available on mixture

**Other adverse effects**

no data available on mixture

**SECTION 13 – DISPOSAL CONSIDERATIONS**

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**Waste Disposal Method:**

Product :

Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated Packaging**

Dispose of as unused product.

**SECTION 14 – TRANSPORTATION INFORMATION**

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**Hazardous for Shipping:** Yes

**Based on 49 CFR, IATA and IMDG:**

**UN Number:** UN1263

**UN Proper Shipping Name:** Paint

**Hazard Class:** 3

**Packing Group:** II

**Labels:** Flammable Liquid

**Placards:** Flammable Liquid

**SECTION 15 – Regulatory Information**

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**TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710:** All hazardous ingredients are on the TSCA Chemical Substance Inventory.

|           |          |          |                   |                  |                |                         |
|-----------|----------|----------|-------------------|------------------|----------------|-------------------------|
| Component | SARA 302 | SARA 313 | Massachusetts RTK | Pennsylvania RTK | New Jersey RTK | California Prop 65 list |
|-----------|----------|----------|-------------------|------------------|----------------|-------------------------|

|                     |     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|-----|
| Ethanol             | No  | No  | Yes | Yes | Yes | No  |
| Methyl Ethyl Ketone | No  | No  | Yes | Yes | Yes | No  |
| Methanol            | No  | Yes | Yes | Yes | Yes | No  |
| Isopropanol         | No  | Yes | Yes | Yes | Yes | No  |
| Phenol              | Yes | Yes | Yes | Yes | Yes | No  |
| Zinc                | No  | Yes | Yes | Yes | Yes | No  |
| Dimethyl Phthalate  | No  | Yes | Yes | Yes | Yes | No  |
| Formaldehyde        | Yes | Yes | Yes | Yes | Yes | Yes |

**SARA 311 / 312 Hazards:** Flammable Hazard ,Acute Health Hazard, Chronic Health Hazard

**SECTION 16 – OTHER INFORMATION**

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