



# MATERIAL SAFETY DATA SHEET

Chemtrec 24-Hour Emergency Telephone  
 Domestic North America (800)424-9300  
 International (703)527-3887

*This MSDS complies with 29 CFR 1910.1200 (Hazard Communication)*

## 1. Product and Supplier Identification

**Product:** Orca Kote Gel Coat  
**Product No:** 05700D

**Product Use:** Used in the manufacture of thermoset plastic parts.

**Supplier:** Fiberlay Inc.  
 24 S. Idaho St  
 Seattle, Wa 98134  
 (206) 782-0660

## 2. Composition

Component	%	CAS Number	Exposure Limits
Unsaturated Polyester(UPE)	50 - 60	-	-
Styrene Monomer	40 - 50	100-42-5	EC-No.: 202-851-5 Classification: Xn, R10-R20-R36/38
Trade Secret	0.2 - 0.5	-	-
Pigment			

\* Harmful components are listed according to guideline for safety data sheet.  
 Other component, not classified as harmful, are indicated by a hyphen.

## 3. Hazards Identification

OSHA status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**SPECIFIC HAZARDS :** Flammable

**ADVERSE HUMAN HEALTH EFFECTS :**  
 Harmful by inhalation. Irritating to eyes and skin

**PHYSICAL & CHEMICAL HAZARDS :**  
 The mixture of product vapor and air could be explosive. Strongly exothermic polymerization may be caused by:  
 Heat, Free radical formers, Peroxides

**Health – 2    Fire – 3    Reactivity – 2**



## 4. First Aid Measures

**INHALATION:** Take person out of the contaminated area. Remove patient to fresh air.

Call a doctor in case of doubt or if symptoms persist.

**HAZARDOUS INHALATION:** Move the victim to a safe area as soon as possible. If breathing is difficult, give oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**SKIN CONTACT:** Take off all contaminated clothing.

Wash in soap and water and rinse with water.

**EYE CONTACT:** Wash immediately (15minutes) with water, opening eyelids.

If irritation continues, see an ophthalmologist.

**INGESTION:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**GENERAL ADVICE:** Consult a physician. Show this safety data sheet to the doctor in attendance.

## 5. Fire Fighting Measures

**SUITABLE**

Powder, foam, carbon dioxide, sand pulverized water.

**NOT SUITABLE**

Use very large quantities (flooding) of water applied as a mist or spray;solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**SPECIFIC HAZARDS**

By combustion, formation of toxic products : carbon monoxide and carbon dioxide..

**SPECIFIC METHODS**

Cool container with sprayed water to avoid polymerization.

**PROTECTION OF FIRE-FIGHTERS**

Eliminate all sources of combustion.

Wear individual breathing apparatus.

## 6. Accidental Release Measures

**PERSONAL PRECAUTIONS:**

Avoid inhaling vapors. Wear protective equipment. Glove - Goggles - Boots. Wear self – contained breathing apparatus.

**ENVIRONMENTAL PRECAUTIONS:**

Do not discharge in sewers. Do not allow this chemical to enter the environment. If the product contaminates lakes, rivers or sewers, inform appropriate authorities in accordance wit local regulations.

**METHODS FOR CLEANING UP:**

**RECOVERY:** Spread sand. Correct the product in a container pending future destruction.

**DISPOSAL:** Burn in an approved installation for liquids.

Polymerized product : discharge authorized.

**INCOMPATIBLE MATERIALS:** Wood sawdust

## 7. Handling and Storage

**HANDLING:** **PREVENTION OF WORKER EXPOSURE:** Collect vapors at source. When using, workplace ventilation is required – NO SMOKING.

**PREVENSON OF FIRE AND EXPLOSION:** Do not smoke when using. Take precautionary measures against static discharges.

**STORAGE:** **STORAGE CONDITION:**

-**SUITABLE:** Keep at temperature not exceeding 30°C. Keep container tightly closed in a cool, well ventilated place.

-**TO AVOID:** Sunlight, heat and sources of ignition (NO SMOKING)

**INCOMPATIBLE MATERIALS:** Strong oxidizing agents. Catalysts and accelerator.

## 8. Exposure Controls, Personal Protection

**PERSONAL PROTECTIVE EQUIPMENT:**

**RESPIRATORY PROTECTIVE EQUIPMENT:** Do not breathe vapors. In case of insufficient ventilation, wear suitable respiratory equipment.

**HAND PROTECTION:** Wear solvent-proof gloves.

**EYE PROTECTION:** Wear glasses.

**SKIN AND BODY PROTECTION:** Wear suitable protective clothing. Remove working clothed after work.

**SPECIFIC HYGIENE MEASURES::** When using do not eat, drink or smoke.

**OCCUPATIONAL EXPOSURE LIMITS**

<b>T W A</b>	UPE	no data available
	Styrene	20 ppm , 85mg/m <sup>3</sup>
<b>S T E L</b>	UPE	no data available
	Styrene	40 ppm, 170mg/m <sup>3</sup>
<b>CEILING</b>	UPE	no data available
	Styrene	no data available

## 9. Physical and Chemical Properties

**APPEARANCE:**

**Form:** Liquid

**Color:** Reddish pink

**SAFETY DATA:**

<b>P H:</b>	No data available	<b>Water solubility:</b>	Insoluble
<b>Boiling point:</b>	UPE: No data available	<b>Melting point:</b>	UPE: No data available
	Styrene: 146 °C	Styrene:	-31°C
<b>Flash point:</b>	UPE: No data available	<b>Ignition temperature:</b>	UPE: No data available
	Styrene: 31 °C	Styrene:	490°C
<b>Explosion limit:</b>	UPE: No data available	<b>Vapor pressure:</b>	UPE: No data available
	Styrene: Upper 6.8 %	Styrene:	16,5 hPa at 37,7 °C
	Lower 0.9 %	Styrene:	5,7 hPa at 15,0 °C
<b>Density:</b>	1.08 ~ 1.12	<b>Vapor density:</b>	UPE: No data available
	(25°C /25°C)	Styrene:	3.6 (air=1)
<b>Viscosity:</b>	2500 ~ 3500 cps	<b>Molecular weight:</b>	Mn=3,000 ↓

## 10. Stability and Reactivity

**Storage stability:** Stable under normal storage condition

**Conditions to avoid:** May polymerize on exposure to light. Heat, flames and sparks.

**Materials to avoid:** Oxidizing agents, Copper

**Hazardous Decomposition products:** UPE: No data available  
Styrene: By thermal composition, formation of CO, CO<sub>2</sub>.

## 11. Toxicological Information

### Acute Toxicity - General Material Information

<b>INHALATION:</b>	UPE: No data available Styrene: Causing headache, dizziness, nausea, loss of coordination, unconsciousness, and in extreme conditions coma and possibly death.
<b>ORAL:</b>	UPE: No data available Styrene: No data available
<b>SKIN IRRITATION:</b>	UPE: No data available Styrene: Moderate skin irritant.
<b>EYE IRRITATION:</b>	UPE: No data available Styrene: Moderate eye irritant.

### Acute Toxicity - LD50/LC50:

<b>Oral:</b>	UPE: No data available Styrene: LD50 2650mg/kg Rat
<b>Inhalation:</b>	UPE: No data available Styrene: LC50 Rat: 11.8 mg/L/4H;

### Chronic Toxicity - General Material Information:

<Styrene>

Prolonged and repeated high exposure may cause impairment of lung, kidney, liver, and brain functions and possibly death. Chronic exposure may result in neurological defects known as "styrene sickness". Prolonged skin contact may produce irritation and defatting dermatitis.

### Chronic Toxicity:

<b>Carcinogenic Effects:</b>	UPE: No data available Styrene: IARC – 2B ACGIH – A4 NTP, OSHA, WISHA- no data available
<b>Mutagenic Effects:</b>	UPE: No data available Styrene: Styrene has been shown to be mutagenic

## 12. Ecological Information

<b>AQUATIC/ TERRESTRIAL TOXICITY:</b>	UPE: No data available Styrene: 96 Hr LC50 Pimephales promelas: 4.02 mg/L 96 Hr LC50 Lepomis macrochirus: 25.05 mg/L 96 Hr EC50 Selenastrum capricornutum: 0.72 mg/L
<b>PERISTENCE/ DEGRADABILITY:</b>	UPE: No data available Styrene: The BOD for styrene is 1.29 (5 days)g/g 2.45 (20 days)g/g
<b>BIO ACCUMULATION:</b>	UPE: No data available Styrene: Styrene will partition from water to organisms, depositing in fatty tissues. Elimination is rapid and not likely to bioconcentrate through the food chain.
<b>ENVIRONMENTAL FATE/MOBILITY:</b>	UPE: No data available Styrene: The atmospheric half-life for styrene vapor is estimated between 0.5 and 17 hours. Styrene is primarily removed by photochemical reactions in air and evaporation in water. The half-life in moving water has been estimated at approximately 6 hours and in ponds and lakes it ranges from 3 to 13 days. In soils with high organic content, styrene moves slowly. It will volatilize from surface soil at a much slower rate than from water.

### 13. Disposal Considerations

**MEASURES FR DISPOSAL:** Incineration in approved installation.  
**NEUTRALIZING OR DESTROYING PROCEDURE OF PRODUCT:** Incineration for liquid resins.  
 Curing then incineration for solid resins.  
**DESTROYING PROCEDURE OF CONTAMINATED PACKING:** Cleaned packaging may be recycled.

### 14. Transport Information

**SEA(IMDG)**  
**PROPER SHIPPING NAME:** RESIN SOLUTION      **UN NO. :** 1866  
**HAZARD CLASS:** 3      **PACKAGING GROUP:** 3  
**LABEL:** 3      **EMS NO:** 3-05

**AIR(ICAO / IATA)**  
**UN NO.** 1866      **LABEL:** 3  
**CLASS** 3      **PACKAGING GROUP:** 3

**LAND(RID/ADR, RTMDR/RTMDF)**  
**PROPER SHIPPING NAME:** RESIN SOLUTION      **UN NO.:** 1866  
**CLASS:** 3/31 DEGREE BY      **PACKAGING GROUP:** 3  
 CELSIUS  
**LABEL:** 3      **SUBSTANCE IDENTIFICATION NO.:** 1866

### 15. Regulatory Information

**Federal and State Regulations:**

UPE: No data available  
 Styrene: Pennsylvania RTK: Styrene (monomer)  
 Florida: Styrene (monomer)  
 Minnesota: Styrene (monomer)  
 Massachusetts RTK: Styrene (monomer)  
 New Jersey: Styrene (monomer)  
 TSCA 8(b) inventory: Styrene (monomer)  
 SARA 313 toxic chemical notification and release reporting: Styrene (monomer)  
 CERCLA: Hazardous substances.: Styrene (monomer)

**Other Regulations:**

UPE: No data available  
 Styrene: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications**

UPE: No data available  
 Styrene: **WHMIS (Canada):**  
 CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
 CLASS D-2A: Material causing other toxic effects (VERY TOXIC).  
**DSCL (EEC):**  
 R10- Flammable.  
 R38- Irritating to skin.  
 R41- Risk of serious damage to eyes.  
 R45- May cause cancer.

## 16. Other Information

- Transportation of Dangerous Goods Act - "Regulations respecting the handling, offering for transport and transporting of dangerous goods." Extract from the Canada Gazette Part II
- Canada Gazette Part II, Hazardous Products Act "Ingredient Disclosure List".
- Manufacturer's Material Safety Data Sheet.
- 29 CFR 1910.1000, Z – Tables
- ACGIH 2000 TLVs for Chemical Substances and Physical Agents
- Registry of Toxic Effects of Chemical Substances (RTECS)
- California Code of Regulation Proposition 65

**Preparation Date:** 2/09/11

**Prepared by:** Orca Composites

Comments: This Material Safety Data Sheet was prepared using information provided by Fiberlay Inc. and AOC, LLC.

**Revisions:** None

This information is given in good faith and based on our current knowledge of the product. We make no guarantee that the health and safety precautions we have suggested will be adequate for all individuals and/or situations involving its handling and use. This information only describes safety measures and no liability may arise from the use of application of the product described herein.