



MATERIAL SAFETY DATA

Chemtrec 24-Hour Emergency Telephone

Domestic North America (800) 424-9300

International (800) 527-3887

This MSDS complies with 29 CFR 1910.1200 (Hazard Communications)

1. PRODUCT AND SUPPLIER IDENTIFICATION:

Product: Orca P-18 Finishing Resin
Product Number: 053D, 053Q, 053F, 053P, 053G
Chemical Family: Polyester Resin
Chemical Name: Unsaturated Polyester Resin

2. HAZARDOUS INGREDIENTS:

Name/CAS#	Exposure limits	Concentration		OSHA:	ACGIH-TLV
Ingredient	Case No.	Percent		None establ.	None establ
Unsaturated Polyester Base Resin	See Index	61-64			
Syrene	100-42-5	35-38%	TWA	50 ppm	50 ppm
			STEL	100 ppm	100 ppm

NIOSH recommends a limit of 50 ppm, 8 hour TWA; 100 ppm 15 minute ceiling

3. HAZARDOUS IDENTIFICATION:

Permissible Exposure Level:

Not established for product. See Section 2.

Potential Health Effects:

Route of entry:

Inhalation; ingestion; skin absorption; eye contact

Effects of Overexposure: (Styrene)

Excessive Inhalation:

- Nasal irritation
- Dizziness
- Weakness, Fatigue
- Nausea, Headache
- Possible unconsciousness, asphyxiation

Prolonged or repeated Skin Contact:

- Moderate irritation
- Defatting
- dermatitis

Eyes:

- Severe irritation
- Redness
- Tearing
- Blurred vision

Ingestion:

- Can cause gastrointestinal irritation
- Nausea
- Vomiting
- Diarrhea
- Aspiration into lungs can cause chemical pneumonitis

4. FIRST AID MEASURES:

First Aid For Eyes:

- Flush with clean, lukewarm water (low pressure) for at least 15 minutes occasionally lifting eyelids.
- Obtain medical attention.

First Aid For Skin:

- Remove contaminated clothing.
- Wash affected areas thoroughly with soap and water.
- Wash contaminated clothing before reuse.

First Aid For Inhalation:

- Move to an area with fresh air free from risk of further exposure.
- Administer artificial respiration or oxygen if needed.
- Keep warm and quiet
- Obtain medical attention immediately.
- Aspiration of material into lungs due to vomiting can cause chemical pneumonitis which can be fatal.

First Aid For Ingestion:

- **DO NOT INDUCE VOMITING.**
- **DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONCIOUS PERSON.**
- Keep person warm and quiet
- Get medical attention.

5. FIRE FIGHTING MEASURES:

Flash Point: 88 F for Volatile Component

Flammable Limits: Lowest Value of Styrene: 1.1%
Upper Value of Styrene: 6.1%

Extinguishing Media: Regular foam, carbon dioxide, or dry chemical

Special Fire Fighting Procedures:

- Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter especially if sprayed into containers of hot, burning liquid
- Wear self-contained breathing apparatus with a full face-piece operated in pressure demand or other positive pressure mode when fighting fires

Unusual Fire/Explosion Hazards:

Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by:

- Pilot lights, Other flames, Sparks, Static discharge
- Heaters
- Smoking
- Electric motors
- Other ignition sources at locations distant from material handling point

Never use welding or cutting torch on or near drum (even empty) because product (even residue) can ignite explosively

6. ACCIDENTAL RELEASE MEASURES:

Small Spill:

- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material
- Transfer to hood

Large Spill:

- Eliminate all ignition sources
- Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed
- Stop spill at source
- Dike area of spill to prevent spreading
- Pump liquid to salvage tank
- Remaining liquid may be taken up by sand, clay, earth, floor absorbent or other absorbent material and shoveled into containers

7. HANDLING & STORAGE:

Storage Temperature (min/max.): 41 F (5 C) / 68 F (20 C)

Special Sensitivity: Heat, light, moisture

Handling/Storage Precautions:

- Stored in closed containers and in the dark at temperatures less than 68 F (20 C)

8. PERSONAL PROTECTION:

Eye-protection Requirements:

- Chemical splash goggles
- face shield

Respiratory Protection:

- If TLV of the product or any component is exceeded, a NIOSH / MSHA jointly approved air supplied respirator is advised in absence of proper environmental control.
- OSHA regulations also permit other NIOSH / MSHA respirators under specified conditions (see your safety equipment supplier)
- Engineering or administrative controls should be implemented to reduce exposure

Ventilation:

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s)

Protective Gloves:

Wear chemical resistant gloves that afford proper protection to the hands, such as neoprene, rubber, latex, etc.

Other Protective Equipment:

Normal work clothing covering arms and legs

9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical Form	Liquid
Boiling Point	Styrene: 293.4 F (145 C) @ 760.0 MMHG
Melting/Freezing Point	Styrene: -23 F (-30.5C)
Specific Gravity	1.0-1.2@ 77 F (25 C)
Bulk Density	Approx. 8.75 LB/gal Clear Approx. 10.1 LB/gal White

% Volatile By Weight	25 %
Vapor Pressure Styrene	4.3 MMHG @ 68 F (20 C)
Vapor Density Styrene	3.6 (Air = 1)
Evaporation Rate	Slower than Ether

10. STABILITY AND REACTIVITY:

Stability: Stable

Hazardous Polymerization: Can occur

Incompatibilities:

Avoid contact with:

- Strong alkalis
- Strong mineral acids
- Oxidizing agents

Instability Conditions:

- Exposure to excessive heat or open flame
- Storage in open containers
- Prolonged storage (6 months)
- Storage above 38 C (100 F)
- Contamination with oxidizing agents

Decomposition Products: May form:

- Toxic materials
- Carbon dioxide
- Carbon monoxide
- Low molecular weight hydrocarbons
- Organic acids

11. TOXICOLOGICAL INFORMATION:

Overexposure to styrene has apparently been found to cause the following effects in laboratory animals:

- Liver abnormalities
- Kidney damage
- Lung damage

This product contains toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. Please refer to Section 2 – Hazardous Components for the specific product and concentration.

12. ECOLOGICAL INFORMATION:

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapors, liquid, and/or solid), all hazard precautions given in this data sheet must be observed.

13. DISPOSAL CONSIDERATIONS:

Small Spill:

- Allow volatile portion to evaporate in hood
- Allow sufficient time for vapors to completely clear hood duct work
- Dispose of remaining material in accordance with applicable regulations

Large Spill:

- Destroy by liquid incineration in accordance with applicable regulations
- Contaminated absorbent should be disposed of in accordance with local, state and federal regulations

14. TRANSPORTATION INFORMATION:

Technical Shipping Name: Resin Solution
Freight Class: 55
Hazard Class Division: 3
UN # : UN1866 HMIS Rating (H=2, F=3, R=1)
Subsidiary Risk: None
Packing Group: III
Hazard Label: Flammable Liquid
Radioactive: Non-radioactive

15. REGULATORY INFORMATION:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Name/cas #</u>	<u>Concentration</u>	<u>State Code</u>
Styrene / 100-42-5	35-38%	PA1,MA,NJ1
Unsaturated Polyester Resin	61-64%	PA3

CA = California proposition 65
MA = Massachusetts Hazardous substance lists
NJ1 = New Jersey Hazardous substance list
PA1 = Pennsylvania Hazardous substance list
PA3 = Pennsylvania Non-hazardous present at 3% or greater

16. OTHER INFORMATION:

Styrene has been identified as a possible human carcinogen by the International Agency for Research on Cancer (IARC). The IARC determination based on "limited evidence" in animals and other "relevant data." IARC concedes there is "inadequate evidence" of humans for its findings.

The significance of these results for humans has not been established. Styrene is not expected to cause cancer in humans at concentrations below the recommended exposure standard or when appropriate industrial hygiene procedures are followed. Moreover, studies in humans exposed for long periods of time to styrene have not demonstrated any carcinogenic effects.

At the conclusion of a major notice and comment rulemaking revising its air contaminants regulations, OSHA concluded that the "current evidence on styrene's carcinogenicity does not support its classification in the final rule as a carcinogen." In the same rulemaking, the National Institute for Occupational Safety and Health (NIOSH) commented that there "seems to be little basis from experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." The National Toxicology Program does not include styrene on its list of chemicals expected to be carcinogenic.

Preparation Date: October 13, 2010
Prepared by: Fiberlay Inc

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Simtec. The data on this sheet relates only to the material specified herein. Simtec assumes no legal responsibility for use or reliance upon these data.