

MATERIAL SAFETY DATA SHEET

Date Prepared: 06/19/02
Boatyard Resin

Page: 1
MSDS Number: 130006

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: Boatyard Resin
Product Numbers: 100517, 100518, 100519, 100527 and 100528
Product Use: Polyester Resin Solution

Company

Fibre Glass-Evercoat
a Division of Illinois Tool Works Inc.
6600 Cornell Road
Cincinnati, Ohio USA
Phone: 513-489-7600

Emergency Telephone Numbers:

CHEMTREC: 1-800-424-9300
CANUTEC: 1-613-996-6666

Prepared By: Safety Department

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	EINECS Number	% (by weight)
Polyester Resin (Non-Hazardous)	Proprietary	Proprietary	60 – 65
Styrene	100-42-5	202-851-5	35 – 40
Amorphous Silica	112945-52-5	231-545-4	0 – 2

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. CAUSES EYE, SKIN, NOSE AND THROAT IRRITATION.

Potential Health Effects

Acute Effects (Short Term):

Eye: Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.

Skin: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

Swallowing: Ingestion of this material may cause gastrointestinal irritation, nausea, diarrhea, and vomiting. Aspiration of this material into the lungs due to vomiting may produce chemical pneumonitis which can be fatal.

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Inhalation: Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache, and dizziness. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Chronic Effects of Overexposure (Long Term):

Styrene: Excessive overexposure to styrene has been found to cause the following effects in humans and may aggravate pre-existing disorders of these organs; central nervous system effects, effects on hearing, mild effects on color vision and respiratory tract damage.

Cancer Information: The International Agency for Research on Cancer (IARC) has classified styrene as a group 2B carcinogen (possibly carcinogenic to humans). This classification is not based on evidence that styrene may be carcinogenic, but rather on a revised definition for Group 2B, and consideration of new data on styrene oxide(Group 2A). This material may contain trace amounts of chemicals considered to be carcinogenic by OSHA, (Benzene, IARC-Group 1).

Other Health Effects: NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Primary Route(s) of Entry: Inhalation, Skin contact, Eye contact, Ingestion, Skin absorption.

SECTION 4. FIRST AID MEASURES

Eyes: Flush eyes gently with water for at least 15 minutes. Seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing: Consult a physician or poison control center immediately. DO NOT INDUCE VOMITING. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel.

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SECTION 5. FIRE FIGHTING MEASURES

Flash Point: 89 °F (31.7 °C)

Explosive Limit: Lower: 1.1% Upper: 6.1%

Autoignition Temperature: 914.0 °F (490.0 °C)

OSHA Flammability Class: Flammable Liquid – Class IC

Hazardous Products of Combustion: May form toxic and corrosive gases: carbon dioxide, carbon monoxide, styrene oxide and various hydrocarbons.

Fire and 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, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

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

Fire Fighting Instructions: Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus NIOSH approved with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

NFPA Rating: Health - 2, Flammability - 3, Reactivity - 2

SECTION 6. ACCIDENTAL RELEASE MEASURES

In Case of Spill: Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Ventilate the area. Wear proper protective equipment (Section 8). Avoid breathing vapors. Collect with an inert absorbant and dispose of properly.

SECTION 7. HANDLING AND STORAGE

Handling: All hazard precautions given in the data sheet must be observed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Do not breathe sanding dust, vapors or spray mist. Do not take internally. Close container after each use. **Keep out of reach of children.**

Storage: Store material in a cool, well-ventilated area. For maximum product quality, avoid prolonged storage at temperatures above 75°F (25°C). Do not use or store near heat, sparks, or open flame. Keep container tightly closed. Avoid contact with incompatible materials.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Chemical splash goggles in compliance with OSHA regulations are recommended.

Skin Protection: Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. A barrier cream may be used for additional skin protection. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protection: Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below acceptable limits. Explosion-proof ventilation system is acceptable.

Exposure Guidelines:

Hazardous Ingredients	CAS Number	OSHA PEL/TWA	ACGIH TLV
Styrene	100-42-5	100 ppm	20 ppm
Amorphous Silica	112945-52-5	15 mg/m ³	10 mg/m ³

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	293 °F/ 145 °C	Vapor Density:	Heavier than air.
Specific Gravity / Density:	1.12 / 9.37 lbs/gal	Percent Volatiles by weight:	36 %
Evaporation Rate:	Slower than ethyl ether.	Physical State:	Liquid
Melting Point:	-23.1°F/ -30.6°C	pH:	Neutral
Odor:	Sharp, aromatic odor.	Solubility:	Insoluble in water.
Vapor Pressure:	5.0 mmHg @ 68 °F / 20 °C	Appearance:	Amber Hazy Liquid
Octanol/Water Partition Coefficient:	Unknown	VOC (as packaged-less exempts and water):	3.37 lbs/gal or 405 g/L
		VOC (as applied*- 2%by wt hardener- less exempts and water):	0.60 lbs/gal or 72 g/L

*NOTE: The applied VOC is lower than the packaged VOC due to a reactive diluent (styrene) that reacts and becomes non-volatile (bonded in the solid material) when the hardener is added.

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SECTION 10. STABILITY AND REACTIVITY

Hazardous Polymerization: Product may undergo hazardous polymerization if exposed to extreme heat.

Hazardous Decomposition: May form: carbon dioxide, carbon monoxide, styrene oxide and various hydrocarbons.

Chemical Stability: Stable under normal handling conditions.

Incompatibility: Avoid contact in uncontrolled conditions with: oxygen, peroxides, strong acids and strong oxidizing agents.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Data:

Ingredient	CAS #	LD ₅₀ Oral-Rat	LC ₅₀ Inhalation-Rat
Styrene	100-42-5	5,000 mg/kg	24 g/m ³ /4H
Amorphous Silica	112945-52-5	3,160 mg/kg	N/E

Carcinogenicity: See Cancer Information, Section 3.

Mutagenicity: No significant evidence found.

Teratogenicity: No significant risk of birth defects or reproductive toxicity of styrene to humans.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Styrene is toxic to aquatic organisms and should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.

SECTION 13. DISPOSAL CONSIDERATION

RCRA Hazardous Waste: This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261). Dispose of in accordance with applicable federal, state, and local regulations.

RCRA Hazard Class: This material would be regulated as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

SECTION 14. TRANSPORT INFORMATION

DOT Description: The DOT Classification for shipping is dependant on quantity, type of packaging (a kit may include other components), or method of shipment.

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SECTION 15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (USA) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs.)
Styrene	1000

SARA Title III: Section 302- Extremely Hazardous Substances

None

SARA Title III: Section 313- Toxic Chemical List

Component	CAS Number	Percentage
Styrene	100-42-5	35 - 40 %

International Regulations

EINECS (Europe) The intentional ingredients of this product are listed.

DSL (Canada) The intentional ingredients of this product are listed.

WHMIS Classification

Health Hazard: D2A, D2B (Other Toxic Effects)

Physical Hazard: B2 (Flammable)

State and Local Regulations

California Proposition 65:

This product contains the following chemical(s) known to the state of California to cause cancer. BENZENE, STYRENE OXIDE, ANILINE

Styrene, in the presence of air and high temperature or prolonged exposure of styrene/air mixture to sunlight, can react to form styrene oxide.

This product contains the following chemical(s) known to the state of California to cause birth defects or reproductive harm. BENZENE

SECTION 16. OTHER INFORMATION

HMIS Rating: Health - 2*, Flammability - 3, Reactivity - 2
Key- 0=Least, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme, *=Chronic Effects

Other Precautions for Use: This product must be mixed with Liquid Hardener (MEKP) prior to use. Please refer to the Material Safety Data Sheet (#100602) for catalyst before using.

Additional Information may be obtained by calling the Evercoat MSDS Hotline at 1-800-729-7600.

NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances.

MATERIAL SAFETY DATA SHEET

Date Prepared: 12/10/01
Liquid Hardener

Page: 1
MSDS Number: 130001

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: Liquid Hardener
Product Numbers: 100602, 100603, 101601, 101604 and 101605
Product Use: Polymerization initiator

Company

Fibre Glass-Evercoat
a Division of Illinois Tool Works Inc.
6600 Cornell Road
Cincinnati, Ohio USA
Phone: 513-489-7600

Emergency Telephone Numbers:

CHEMTREC: 1-800-424-9300
CANUTEC: 1-613-996-6666

Prepared By: Safety Department

Packaged By:

Rocket Plastics Co.
P.O. Box 429514
Montgomery, Ohio USA 45242

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	EINECS Number	% (by weight)
Propanoic acid, ester	6846-50-0	229-934-9	60 – 70
Methyl Ethyl Ketone Peroxide	1338-23-4	215-661-2	30 – 35
Hydrogen Peroxide	7722-84-1	231-765-0	0.001 – 3.0
Water	7732-18-5	231-791-2	0.001 – 2.0
Methyl Ethyl Ketone	78-93-3	201-159-0	0.001 – 2.0

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER! ORGANIC PEROXIDE. HEAT OR CONTAMINATION MAY CAUSE
HAZARDOUS DECOMPOSITION. CAUSES EYE AND SKIN BURNS.
HARMFUL OR FATAL IF SWALLOWED.

Potential Health Effects

Acute Effects (Short Term):

Eye: Contact with liquid or vapor may result in burns and possibly permanent damage. Symptoms may include burning, redness, tearing, and blurred vision.

Skin: May cause severe skin irritation with blistering. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

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Swallowing: Ingestion of this material may cause severe gastrointestinal irritation, or burns of the mouth, throat, esophagus and stomach, nausea, diarrhea, and vomiting. Aspiration of this material into the lungs due to vomiting may cause severe lung injury.

Inhalation: Excessive inhalation of vapors may cause severe nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache, and dizziness. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Chronic Effects of Overexposure (Long Term):

Product: Prolonged and /or repeated inhalation is expected to be severely irritating to the respiratory system.

Methyl Ethyl Ketone: Animal tests show that this substance possibly causes toxic effects upon human reproduction.

Cancer Information: This product does not contain any substance, which is listed as a carcinogen by NTP, IARC or OSHA.

Other Health Effects: NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Primary Route(s) of Entry: Inhalation, Skin contact, Eye contact, Ingestion, Skin absorption.

SECTION 4. FIRST AID MEASURES

Eyes: Flush eyes gently with water for at least 15 minutes. Seek immediate medical attention. DO NOT let victim rub eyes. Do not attempt to use any neutralization chemicals.

Skin: Immediately remove contaminated clothing. Wash exposed area with soap and water. Seek medical attention. Launder clothing before reuse.

Swallowing: Consult a physician or poison control center immediately. DO NOT INDUCE VOMITING. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel.

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SECTION 5. FIRE FIGHTING MEASURES

Flash Point: 179.6 °F (82.0 °C)

Explosive Limit: Lower: 2.0% Upper: 11.0%

Autoignition Temperature: Not Determined

OSHA Flammability Class: Combustible Liquid – Class IIIA

Hazardous Products of Combustion: May form toxic and corrosive gases: carbon dioxide, carbon monoxide, water, acetic acid, formic acid, propionic acid, methyl ethyl ketone and various hydrocarbons.

Fire and 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, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

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

Fire Fighting Instructions: Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus NIOSH approved with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

NFPA Rating: Health - 3, Flammability - 2, Reactivity - 2

SECTION 6. ACCIDENTAL RELEASE MEASURES

In Case of Spill: Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Ventilate the area. Wear proper protective equipment (Section 8). Avoid breathing vapors. Collect with an inert absorbant and dispose of properly.

SECTION 7. HANDLING AND STORAGE

Handling: All hazard precautions given in the data sheet must be observed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Do not breathe vapors or spray mist. Do not take internally. Close container after each use. **Keep out of reach of children.**

Storage: Store material in a cool, well-ventilated area. For maximum product quality, avoid prolonged storage at temperatures above 75°F (25°C). To prevent possible self-accelerating decomposition, temperatures in the storage facility must not exceed 131°F (55°C). Do not use or store near heat, sparks, or open flame. Keep container tightly closed. Avoid contact with incompatible materials.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Chemical splash goggles in compliance with OSHA regulations are recommended.

Skin Protection: Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. A barrier cream may be used for additional skin protection. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protection: Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below acceptable limits. Explosion-proof ventilation system is acceptable.

Exposure Guidelines:

Hazardous Ingredients	CAS Number	OSHA PEL/TWA	ACGIH TLV
Hydrogen Peroxide	7722-84-1	1 ppm	1 ppm
Methyl Ethyl Ketone	78-93-3	200 ppm	200 ppm
Methyl Ethyl Ketone Peroxide	1338-23-4	N/E	0.2 ppm C
Mppcf- millions of particles per cubic foot of air		N/E-Not Established	C-Ceiling

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	176 - 536 °F / 80 - 280 °C	Vapor Density:	Heavier than air.
Specific Gravity / Density:	1.0/ 8.42 lbs/gal	Percent Volatiles by weight:	Not Available
Evaporation Rate:	Slower than ethyl ether.	Physical State:	Liquid
Melting Point:	32 °F / 0 °C	pH:	Neutral
Odor:	Ketone odor.	Solubility:	Moderate in water.
Vapor Pressure:	23.2 mmHg @ 68 °F / 20 °C (H ₂ O ₂)	Appearance:	Clear, Colorless Liquid
Octanol/Water Partition Coefficient:	Unknown	VOC (as packaged-less exempts and water):	0.168 lbs/gal or 20 g/L

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SECTION 10. STABILITY AND REACTIVITY

Hazardous Polymerization: Product may undergo hazardous polymerization if exposed to temperatures above 131°F (55°C).

Hazardous Decomposition: May form toxic and corrosive gases: carbon dioxide, carbon monoxide, oxygen, ethane, methane, and various hydrocarbons.

Chemical Stability: Stable under normal handling conditions.

Incompatibility: Avoid contact in uncontrolled conditions with: organic materials, inorganic acids, strong oxidizing agents, accelerators, reducing materials and strong bases.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Data:

Ingredient	CAS #	LD ₅₀ Oral-Rat	LC ₅₀ Inhalation-Rat
Methyl Ethyl Ketone Peroxide	1338-23-4	484 mg/kg	200 ppm/4H
Propanoic Acid, ester	6846-50-0	>3,200 mg/kg	N/E
Methyl Ethyl Ketone	78-93-3	2,737 mg/kg	23,500 mg/m ³ /8H

Carcinogenicity: See Cancer Information, Section 3.

Mutagenicity: No significant evidence found.

Teratogenicity: Development inhalation toxicity studies with methyl ethyl ketone in rats and mice resulted in fetal toxicity at maternally toxic doses.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: The ecological toxicity of this product is not known.

SECTION 13. DISPOSAL CONSIDERATION

RCRA Hazardous Waste: This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261). Dispose of in accordance with applicable federal, state, and local regulations.

RCRA Hazard Class: This material would be regulated as EPA Hazardous Waste Number D001 based on the characteristic of ignitability (oxidizer), D002 based on the characteristic of corrosivity, D003 based on the characteristic of reactivity, U160 (contains MEKP) and D035 (contains MEK).

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SECTION 14. TRANSPORT INFORMATION

DOT Description: The DOT Classification for shipping is dependant on quantity, type of packaging (a kit may include other components), or method of shipment.

SECTION 15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (USA) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

<u>Component</u>	<u>RQ (lbs.)</u>
Methyl Ethyl Ketone Peroxide	10
Methyl Ethyl Ketone	5000

SARA Title III: Section 302- Extremely Hazardous Substances
None

SARA Title III: Section 313- Toxic Chemical List

<u>Component</u>	<u>CAS Number</u>	<u>Percentage</u>
Methyl Ethyl Ketone	78-93-3	0.001 – 2.0%

International Regulations

EINECS (Europe) The intentional ingredients of this product are listed.

DSL (Canada) The intentional ingredients of this product are listed.

WHMIS Classification

Health Hazard: C, D2A, E, F (Oxidizer, Toxic Effects,
Corrosive, Dangerously Reactive Materials)

Physical Hazard: B3 (Combustible)

State and Local Regulations

California Proposition 65:

This product contains the following chemical(s) known to the state of California to cause cancer. NONE

This product contains the following chemical(s) known to the state of California to cause birth defects or reproductive harm. NONE

SECTION 16. OTHER INFORMATION

HMIS Rating: Health – 3, Flammability - 2, Reactivity - 2

Key- 0=Least, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme, *=Chronic Effects

Other Precautions for Use: DO NOT return unused material to the original container. DO NOT contaminate product with foreign materials, it may cause hazardous decomposition. Additional Information may be obtained by calling the Evercoat MSDS Hotline at 1-800-729-7600.

NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances.