

MATERIAL SAFETY DATA SHEET



4011 Hyde Park Blvd.
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JANUARY 2011

POLYESTER MOUNTING SYSTEM HARDENER

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POLYESTER MOUNTING SYSTEM RESIN

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SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : POLYESTER HARDENER
IDENTIFICATION NUMBER: 20-8122-001, 20-8122-002, 20-8122-009
PRODUCT USE/CLASS : acrylic compound activator

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%
01	Methyl ethyl ketone	78-93-3	1.0-5.0
Classification: F; Xi; R11-36-66-67			
02	Dimethyl phthalate	131-11-3	30.0-60.0
Classification: No information; N.E.			
03	Hydrogen peroxide	7722-84-1	1.0-5.0
Classification: O, C; R8-34			
04	Methyl ethyl ketone peroxide	1338-23-4	30.0-60.0
Classification: No information; N.E.			
EXPOSURE LIMITS			
U/K GERMANY OTHER			
ITEM	8-HR REL	15-MIN STEL	8-HR MAK 15-MIN MAK 8-HR TWA SKIN
01	200 ppm	300 ppm	200 ppm N/E 200ppm ACGIH NO
02	5mg/m N.E.	5mg/m3 N/E	N.E. NO
03	1ppm N.E.	1ppm N/E	1ppm ACGIH NO
04	N.E. 0.2 ppm*	0.7 ppm (C)	N/E 0.2ppm (C) NO
(See Section 16 for abbreviation legend), * - Ceiling Value			

SECTION 3 - IDENTIFICATION OF HAZARDS

EMERGENCY OVERVIEW: (R8) Contact with combustible material may cause fire. (R36/38) Irritating to eyes and skin. (R66) Repeated exposure may cause skin dryness or cracking. (R67) Vapors may cause drowsiness and dizziness. PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, INHALATION, EYE CONTACT

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Flush eye with water for 15 minutes. Get medical attention.
SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.
INHALATION: If symptoms occur, remove to fresh air. Medical personnel may administer oxygen if breathing is difficult. Seek medical attention if symptoms persist.

SECTION 4 - FIRST AID MEASURES

INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
NOTES TO PHYSICIAN: Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 82 C LOWER EXPLOSIVE LIMIT: 1.8 %
(SETAFLASH CLOSED CUP) UPPER EXPLOSIVE LIMIT: 11.5 %
AUTOIGNITION TEMPERATURE: No data
EXTINGUISHING MEDIA:ALCOHOL FOAM,CO2,DRY CHEMICAL,FOAM,WATER FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers exposed to fire may explode. Can be self-sustaining.
SPECIAL FIREFIGHTING PROCEDURES: Fight fire with large amounts of water from a safe distance. Do not attempt clean up until material has cooled completely.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Remove sources of ignition. Absorb spilled material with inert substance such as clay. Place contaminated material in covered waste container and dispose of in accordance with local and national regulations.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid contact with eyes, skin, and clothing. FOR INDUSTRIAL USE ONLY.

STORAGE: Store in a cool place in original container away from heat, flame, and direct sunlight. Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate. Supplemental ventilation equipment should be approved for use with flammable vapors.

RESPIRATORY PROTECTION: If exposure levels are unknown, if levels exceed recommended safe exposure limit, or if effects occur, use approved respirator in accordance with regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin. Butyl rubber gloves. Teflon gloves. Supported PVA gloves.

EYE PROTECTION: Chemical splash goggles.

OTHER PROTECTIVE EQUIPMENT: Eye wash.

HYGIENIC PRACTICES: Follow good general industrial safety practices during Use

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE : 67 - 283 C VAPOR DENSITY : Is heavier than air

ODOR : Mild acrid ODOR THRESHOLD : no data

APPEARANCE : Clear EVAPORATION RATE: Is slower than Butyl

SOLUBILITY IN H2O : Negligible Acetate

FREEZE POINT : no data SPECIFIC GRAVITY: 1.1010

VAPOR PRESSURE : no data - low pH @ 0.0 % : not applicable

PHYSICAL STATE : liquid VISCOSITY : low

COEFFICIENT OF WATER/OIL DISTRIBUTION: no data

SELF-ACCELERATING DECOMPOSITION TEMPERATURE (SADT): 1 gal: 75 deg C
(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY: Strong bases. Strong Lewis or mineral acids. Metal salts. Accelerants/Catalysts.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Aromatic and aliphatic hydrocarbons. Water.

HAZARDOUS POLYMERIZATION: Should not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

----- CHEMICAL NAME ----- LD50 ----- LC50 -----

Methyl ethyl ketone Derm rbt 6480 mg/m Not Applicable

Dimethyl phthalate oral(rat)6800mg/kg Not Applicable

Hydrogen peroxide Not Applicable Not Applicable

Methyl ethyl ketone peroxide oral(rat)=484mg/kg Inh-rat=200ppm/4H

Toxicological Test Data: Not Applicable.

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ACUTE EFFECTS - EYE CONTACT: Contact with eyes may cause injury if not removed promptly. Severe irritant to eyes.

ACUTE EFFECTS - SKIN CONTACT: Irritating to skin. May cause defatting and redness.

ACUTE EFFECTS - INHALATION: Harmful if inhaled. Liquid aspirated into lungs may cause chemical pneumonitis. May cause headaches and dizziness. Causes respiratory tract irritation.

ACUTE EFFECTS - INGESTION: This material may be harmful or fatal if swallowed.

CHRONIC OVEREXPOSURE EFFECTS: *Embryotoxic/fetotoxic effects have been observed in laboratory rats exposed to methyl ethyl ketone by inhalation at levels greater than 1000 ppm for most of the gestation period. Methyl ethyl ketone may shorten the time of onset of peripheral polyneuropathy caused by methyl n-butyl ketone or n-hexane. Methyl ethyl ketone by itself has not been shown to cause peripheral polyneuropathy. Animal studies suggest that repeated or prolonged overexposure may cause injury to the kidneys, liver, or central nervous system.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: No data

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Incineration preferred. This material and/or its container must be disposed of as hazardous waste. Cured product (resin and hardener reacted per directions) is inert and non-hazardous and may be landfilled if local regulations permit.

SECTION 14 - TRANSPORTATION INFORMATION

INTERNATIONAL SHIPPING NAME: Organic peroxide type E, liquid (Methyl ethyl ketone peroxide, 37-40%)

INTERNATIONAL ID NUMBER: UN3107

IMDG CLASS (1ø,2ø): 5.2, none PACKING GROUP: II

IMDG EMS: IATA CLASS (1ø,2ø): 5.2, none

INTERNATIONAL SHIPPING INFORMATION: TEC@-88

SECTION 15 - REGULATORY INFORMATION

CHiP SUPPLY LABEL RISK PHRASES: (R8) Contact with combustible material may cause fire. (R36/38) Irritating to eyes, respiratory system, and skin. (R66) Repeated exposure may cause skin dryness or cracking. (R67) Vapours may cause drowsiness and dizziness.

CHiP SUPPLY LABEL SAFETY PHRASES: (S9) Keep containers in a well ventilated place. (S16) Keep away from sources of ignition - No smoking. (S28) After contact with skin, wash immediately with plenty of water. For professional use ONLY.

CHiP SUPPLY LABEL SYMBOLS: Oxidizing, O Irritant, Xi

SECTION 16 - OTHER INFORMATION

PREVIOUS MSDS REVISION DATE: 04/04/01

REASON FOR REVISION: Update Section(s): 1, 3, 14, 15

VOLATILE ORGANIC COMPOUNDS (VOCS): 22 grams/ltr

LEGEND: N.A. - Not Applicable, N.E. - Not Established,

N.D. - Not Determined

ABBREVIATIONS: ACGIH = American Conference of Governmental Industrial Hygienists; OSHA = US Occupational Health and Safety Administration; UK = United Kingdom; TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs); STEL = Short-Term Exposure Limit (15 min); C = Ceiling Value; PEL = Permissible Exposure Limit

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SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **POLYESTER CASTOGLAS RESIN**

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%
01	Styrene	100-42-5	30.0-60.0
Classification: Xn, Xi; R10-20-36/38			
EXPOSURE LIMITS			
U/K GERMANY OTHER			
ITEM	8-HR REL	15-MIN STEL	8-HR MAK 15-MIN MAK 8-HR TWA SKIN
01	N.E.	N.E.	N.E. 50ppm ACGIH YES
(See Section 16 for abbreviation legend)			

SECTION 3 - IDENTIFICATION OF HAZARDS

EMERGENCY OVERVIEW: (R10) Flammable. (R20) Harmful by inhalation.
(R36/38) Irritating to eyes and skin.
PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, INHALATION, EYE CONTACT,

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Flush eye with water for 15 minutes. Get medical attention.
SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.
INHALATION: If symptoms occur, remove to fresh air. Medical personnel may administer oxygen if breathing is difficult. Seek medical attention if symptoms persist.
INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
NOTES TO PHYSICIAN: Not Applicable.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 31 C LOWER EXPLOSIVE LIMIT: 1.1 %
(PENSKY-MARTENS C.C.) UPPER EXPLOSIVE LIMIT: 6.1 %
AUTOIGNITION TEMPERATURE: No data
EXTINGUISHING MEDIA:ALCOHOL FOAM,CO2,DRY CHEMICAL,FOAM
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air, and may travel along the ground to be reignited at locations distant from the source; flashback of flame may occur. Containers exposed to fire may explode.
SPECIAL FIREFIGHTING PROCEDURES: Water stream may be used to cool exposed containers. Water stream should not be directed into fire.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Remove sources of ignition. Absorb with inert material such as clay. Place contaminated material in covered waste container and store in a cool area away from direct sunlight.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well ventilated area. Follow all MSDS/label

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precautions even after container is emptied because it may retain product residues. Avoid contact with eyes, skin, and clothing. FOR INDUSTRIAL USE ONLY.

STORAGE: Store in a cool area in original container away from direct heat and sunlight. Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate. Supplemental ventilation equipment should be approved for use with flammable vapors.
RESPIRATORY PROTECTION: If exposure levels are unknown, if levels exceed recommended safe exposure limit, or if effects occur, use approved respirator for protection against organic vapors in accordance with regulations and manufacturer's recommendations.
SKIN PROTECTION: Clean clothing to cover skin. Butyl rubber gloves. DO NOT use vinyl gloves.
EYE PROTECTION: Chemical splash goggles.
OTHER PROTECTIVE EQUIPMENT: Eye wash.
HYGIENIC PRACTICES: Follow good general industrial safety practices during use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE : 146 - 146 C VAPOR DENSITY : Is heavier than air
ODOR : Pungent plastic ODOR THRESHOLD : No data
APPEARANCE : Clear EVAPORATION RATE: Is slower than Butyl
SOLUBILITY IN H2O : Insoluble Acetate
FREEZE POINT : No data SPECIFIC GRAVITY: 1.0168

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE : No data pH @ 0.0 % : N/A
PHYSICAL STATE : Liquid VISCOSITY : Low
COEFFICIENT OF WATER/OIL DISTRIBUTION: No data
(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Prolonged exposure to heat, sunlight.
INCOMPATIBILITY: Strong mineral and organic bases. Alkali metal-graphite composites, butyllithium, bidenxoyl peroxide, chlorosulfonic acid, oleum, sulfuric acid, chlorine + iron(III) chloride.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Aromatic and aliphatic hydrocarbons.
HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:
----- CHEMICAL NAME ----- LD50 ----- LC50 -----
Styrene Or1-rat=5000mg/kg Inh-rat=24g/m3/4H
Toxicological Test Data: No data.
ACUTE EFFECTS - EYE CONTACT: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.
ACUTE EFFECTS - SKIN CONTACT: Substance may cause slight skin irritation.
ACUTE EFFECTS - INHALATION: Liquid aspirated into lungs may cause chemical pneumonitis. High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and even death with longer exposure.
ACUTE EFFECTS - INGESTION: May cause nausea and vomiting.
CHRONIC OVEREXPOSURE EFFECTS: *Styrene has been listed as a potential

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carcinogen by IARC. Evidence of carcinogenicity has not been seen in epidemiological studies of workers exposed to styrene. Repeated excessive exposures may cause central nervous system effects. Styrene is reported to have caused hearing loss in animals exposed to levels 16 x REL/TLV and higher. The significance of this finding to humans is unknown.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: No DATA

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Fuels blending or incineration preferred for free liquid. This material and/or its container may be required to be disposed of as hazardous waste if disposed of "as sold." Cured product is inert and non-hazardous and may be landfilled if local regulations permit.

SECTION 14 - TRANSPORTATION INFORMATION

INTERNATIONAL SHIPPING NAME: Resin solution
INTERNATIONAL ID NUMBER: UN1866
IMDG CLASS (1ø,2ø): 3.2, NONE PACKING GROUP: III
IMDG EMS: 313 IATA CLASS (1ø,2ø): 3, none
INTERNATIONAL SHIPPING INFORMATION: TEC®-101

| SECTION 15 - REGULATORY INFORMATION |

CHiP SUPPLY LABEL RISK PHRASES: (R10) Flammable. (R20) Harmful by inhalation. (R36/38) Irritating to eyes and skin.
CHiP SUPPLY LABEL SAFETY PHRASES: (S23) Do not breathe vapors. For professional use only.
CHiP SUPPLY LABEL SYMBOLS: Harmful, Xn