

Penturning - Casting Kit Instructions

Make sure you have adequate ventilation!

Resin and Hardener are FLAMMABLE!

Keep away from heat and fire!

List of Materials Included:

32oz. High Performance Resin	Hardener
5 pair latex Gloves	Measuring Cup
5 Stir sticks	Assorted cork and rubber stoppers
Mold	

1. Cover flat and level work area with newspaper. Set mold on newspaper.
2. Put Measuring cup next to mold and add 2 ounces of High Performance Resin into the cup.
Add 10 drops of hardener if it is 60-69 degrees or 8 drops of hardener if it is 70-75 degrees. Mix with stir stick VERY SLOWLY, trying not to introduce bubbles into the mix. As soon as mixed well, with stirrer, remove bubbles from mix and wipe on newspaper. Working time is about 10 minutes, so this part of the cast must be completed and poured within that time or the resin will be ruined
3. Pour mix slowly into mold until it is about 1/4" to 3/8" deep. Discard the rest of the mix, saving the measuring cup. Remove any bubbles that appear in mix by using stir stick and wiping them on newspaper. You will have to watch the mix for about 15-20 minutes, as additional bubbles may appear and need removed. The mix needs to cure for at least 2 hours, but preferably overnight or 8 hours. Keep dust and dirt from getting into the mold or they will become part of your pen!
4. During the time that the mix is curing, get tubes from your pen kit and wrap them with the supplied paper, or anything that you might have that you want to turn into a pen design. Such as greeting paper, wall paper, pictures, etc. Cut the pieces you wish to use to fit the tubes with a very small overlap seam. The items you use for wrapping the tubes must lie flat on the tube and look nearly seamless. Any seam that is noticeable now will be magnified by the finished casting!
5. Glue the wrap to the tubes with CA glue and set aside to cure for at least 20 minutes, but preferably overnight or 8 hours.
6. After curing: Take tubes and trim any excess from the tube ends so that all material glued to the brass does not extend past the brass.
7. Add suitable size corks/rubber stoppers to each end of the tubes. Adjust the length of the tubes with stoppers to fit the mold by trimming the ends of the protruding stoppers.
8. Put tubes into the mold.
9. In measuring cup, mix 3 ounces of resin with 15 drops of hardener if it is 60 to 69 degrees, or with 12 drops of hardener if it is 70 - 75 degrees, and mix as in #2 above. Remove bubbles as they appear.

10. Pour resin into mold over and around the tubes until the tubes are 90% or almost covered.
Do not completely cover the tubes. Gently "roll" the tubes (while in the resin and still liquid) to release any air bubbles that might be trapped underneath. Position the tubes squarely in the mold to cure. Remove bubbles as in the previous cast by using the stir sticks and wiping on the newspaper. You will have to remove the bubbles multiple times over a period of about 10 to 20 minutes. Any bubbles left will be a part of your finished work, and possibly ruin your cast. It is common for the tubes to move slightly during this time - make sure they stay straight in the molds until the resin "flashes" (becomes gel - like). As soon as the resin begins to flash, do not disturb it any longer or it will ruin your cast!
11. Let resin cure for 24 hours.
12. After 24 hours resin should be hard to the touch of a stir stick. Check by touching stir stick to an area near the mold edge, away from the tubes (DO NOT TOUCH NEAR THE TUBES AS FINGERPRINTS OR MARKS MAY RESULT!).
13. Put 2 ounces of resin into the measuring cup and add 10 drops of hardener if 60 - 69 degrees, or 8 drops of hardener if 70 - 75 degrees. Stir as above as in #2 being careful again not to introduce bubbles.
14. Pour resin into mold to cover tubes plus a depth of 1/4 to 3/8". Again for about 10 to 20 minutes, you will have to remove bubbles using a stir stick and wiping them onto the newspaper.
15. Let resin "cure" for 24 hours.
16. After "curing" remove from mold by twisting ("flexing") ends of mold carefully. Mold can be reused many times if not destroyed in this process. Block will "pop" out of the mold. DO NOT TOUCH AREA OF THE FINISHED WORK OR FINGERPRINTS WILL RESULT !! Handle by the edges.
17. Cut the resin into two pieces (pen blanks) with a band saw using light pressure, observing all safety precautions. Do not force the band saw to cut the resin with undue pressure or it will crack the resin.
18. Make an additional band saw cut at the tube ends to expose the cork/rubber stoppers. Cut near, but not into the brass tubes or your pen may not operate correctly.
19. With a sharp pin or nail, remove the stopper completely.
20. Congratulations! You now have pen blanks ready for turning! Turn with a very light pressure.
21. Turn carefully to not expose the imbedded object. You may have to leave a small amount of material above the bushings to not "Blow out" the blanks. This is due to the additional thickness of the blank. Taper the ends of the blanks slightly and it usually will not affect the beauty or function of the kits. Be careful!! There are exceptions to this rule - prefit the blanks to the kits to check!
22. Sand with sandpaper to 400 or 600, then use a product such as micromesh to 12000 .
23. Finish with a suitable Plastic Polish.
24. Assemble Pen Kit with your new blanks

MATERIAL SAFETY DATA SHEET

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PRODUCT NAME: KAST-A-BLANK POLYESTER BLANK CASTING RESIN
PRODUCT CLASS: UNSATURATED POLYESTER RESIN
PRODUCT NUMBER: 00175, 00175C, 00183, 00183C, 00191, 00191C

D.O.T. SHIPPING INFORMATION: PROPER SHIPPING NAME: CONSUMER COMMODITY
PROPER HAZARD CLASS: ORM-D

SECTION I

ENVIRONMENTAL TECHNOLOGY, INC.
300 SOUTH BAY DEPOT ROAD
FIELDS LANDING, CA 95537
PHONE NUMBER FOR INFORMATION: (707) 443-9323

TRANSPORTATION EMERGENCY PHONE NUMBER:

CHEMTREC (800) 424-9300

DATE PREPARED: 09/06/08

PREPARED BY: TECHNICAL DEPARTMENT

SECTION II Hazardous Ingredients/Identity Information

HAZARDOUS COMPONENTS	CAS REG.NO.	APPROX WT. %	ACGIH TWA/TLV	OSHA PEL	VAPOR PRESSURE mm Hg @68°F
STYRENE THIS CHEMICAL IS SUBJECT TO REPORTING UNDER SARA TITLE III SECTION 313	100-42-5	<35	50ppm	50ppm	4.30

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 293.4°F @ 760 mmHg
VAPOR PRESSURE: 4.50 mmHg @ 68°F
SPECIFIC VAPOR DENSITY: 3.60 @ AIR=1
SPECIFIC GRAVITY: 1.082 - 1.118 @ 77°F
LIQUID DENSITY: 9.100 - 9.300 LBS/GAL @ 77°F
PERCENT VOLATILES: 31.0 - 37.0 %
EVAPORATION RATE: SLOWER THAN ETHYL ETHER
APPEARANCE: CLEAR, VISCOUS
STATE: LIQUID

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): 86°F SETAFLASH

FLAMMABLE LIMITS: % IN AIR LEL: 1.10 UEL: 6.10

EXTINGUISHING MEDIA: X FOAM ALCOHOL FOAM X CO2 X DRY CHEMICAL WATER SPRAY OTHER

SPECIAL FIRE FIGHTING PROCEDURES: USE SELF-CONTAINED BREATHING APPARATUS. USE WATER SPRAY TO COOL CONTAINERS TO PREVENT PRESSURE BUILD-UP, AUTO-IGNITION, OR EXPLOSION. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING.

UNUSUAL FIRE AND EXPLOSION HAZARDS: KEEP CONTAINERS TIGHTLY CLOSED AND ISOLATED FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXCESSIVE HEAT.

SECTION V - REACTIVITY DATA

STABILITY__ UNSTABLE_X_ STABLE / CONDITIONS TO AVOID: EXPOSURE TO EXCESSIVE HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG MINERAL ACIDS, PEROXIDES, AND POLYMERIZATION CATALYSTS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: BURNING MATERIAL EMITS TOXIC OXIDES OF CARBON AND NITROGEN

HAZARDOUS POLYMERIZATION X MAY OCCUR MAY NOT OCCUR. CONDITIONS TO AVOID: EXPOSURE TO EXCESSIVE HEAT AND INCOMPATIBLE MATERIALS

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INHALATION? YES SKIN? YES INGESTION? YES

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: KAST-A-BLANK POLYESTER BLANK CASTING RESIN

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HEALTH HAZARDS (ACUTE AND CHRONIC): SEVERE EYE IRRITATION, SKIN IRRITATION, DIZZINESS, NAUSEA, NARCOSIS(CENTRAL NERVOUS SYSTEM DEPRESSION) ON INHALATION. CHRONIC EXPOSURE COULD DAMAGE CNS, RESPIRATORY SYSTEM, EYES, GASTROINTESTINAL TRACT, LIVER, SPLEEN, AND KIDNEYS

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? YES OSHA REGULATED? NO
IARC LISTS STYRENE AS "ANIMAL POSITIVE". THERE IS NO EVIDENCE THAT IT IS A HUMAN CARCINOGEN
SIGNS AND SYMPTOMS OF EXPOSURE: RESPIRATORY OR SKIN IRRITATION, DIZZINESS, GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: RESPIRATORY OR SKIN DISEASE MAY BE WORSENER BY EXPOSURE TO THIS PRODUCT

EMERGENCY AND FIRST AID PROCEDURES: FLUSH EYES WITH WATER FOR 15 MINUTES, OCCASIONALLY LIFTING EYELIDS. REMOVE CONTAMINATED CLOTHING AND WASH SKIN WITH SOAP AND WATER.
INHALATION: MOVE TO FRESH AIR; APPLY ARTIFICIAL RESPIRATION OR ADMINISTER OXYGEN AS NECESSARY. INGESTION: DO **NOT** INDUCE VOMITING. FOR ANY SIGNIFICANT EXPOSURE, CALL A PHYSICIAN IMMEDIATELY!

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: KEEP SPECTATORS AWAY. VENTILATE AREA & REMOVE ALL SOURCES OF IGNITION. EQUIP EMPLOYEES WITH APPROPRIATE PROTECTIVE EQUIPMENT. DIKE AROUND SPILL AND COVER WITH ABSORBENT MATERIAL. SHOVEL WITH NON-SPARKING TOOLS INTO CONTAINERS. SEAL CONTAINERS AND REMOVE TO SAFE AREA.
WASTE DISPOSAL METHOD:DISPOSE OF ALL WASTE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATORY CONTROLS
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: PROTECT CONTAINERS AGAINST PHYSICAL DAMAGE AND STORE IN VENTILATED AREA REMOVED FROM EXCESSIVE HEAT, ELECTRICAL EQUIPMENT, AND SOURCES OF IGNITION.
OTHER PRECAUTIONS: GROUND AND BOND EQUIPMENT DURING TRANSFER INTO CONTAINERS. USE NONSPARKING TOOLS. DISPOSE OF DRUMS WITH LICENSED WASTE HAULER. NEVER WELD OR FLAME-CUT AN EMPTY CONTAINER.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): IF TLV IS EXCEEDED USE NIOSH APPROVED, FULL-FACE ATMOSPHERE SUPPLYING RESPIRATOR OR AIR PURIFYING RESPIRATOR FOR ORGANIC VAPOR
VENTILATION: LOCAL EXHAUST: REQUIRED MECHANICAL (GENERAL): REQUIRED SUFFICIENT TO KEEP AIRBORNE VAPOR CONCENTRATIONS BELOW THE TLV LIMIT
PROTECTIVE GLOVES: POLYVINYL ALCOHOL EYE PROTECTION: SPLASH GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: POLYVINYL ALCOHOL APRON. EYE BATH AND SAFETY SHOWER. WEAR IMPERVIOUS CLOTHING AND FOOTWEAR

WORK/HYGIENIC PRACTICES: SMOKE ONLY IN APPROVED AREA. WASH HANDS BEFORE EATING, SMOKING OR USING RESTROOM. DO NOT RE-USE CONTAMINATED CLOTHING.

HAZARD CATERGORIS FOR SARA TITLE III SECTIONS 311/312 REPORTING ARE: 1) FIRE HAZARD; 2) SUDDEN RELEASE OF PRESSURE HAZARD; 3) REACTIVE HAZARD; 4) IMMEDIATE(ACUTE) HEALTH HAZARD; 5) DELAYED(CHRONIC) HEALTH HAZARD
THE DOT/CERCLA REPORTABLE QUANTITY (RQ) FOR THIS PRODUCT IS 2,907 LBS., BASED ON THE RQ OF STYRENE AND ITS PERCENT IN PRODUCT. * **WARNING** * THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his or her own use of the product described herein. Since the actual use by others is beyond Environmental Technology, Inc.'s control, no guarantee, expressed or implied, is made by Environmental Technology, Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product.