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======== For chemicals, coatings, and related materials ==========
=============== 'Essentially similar' to form OSHA-20 ================
DATE PREPARED:
11-16-87
: C.L. Smith Industrial Company
                                    EMERGENCY PHONE NUMBER
ADDRESS:
      1311 South 39th Street
                                    DAY: (314)-771-0080
ADDRESS:
      St. Louis, MO
                                    NIGHT: (314)-771-0080
ADDRESS:
ZIPCODE: 63110
                                   INFORMATION PHONE NUMBER
                                         (314)-771-0080
NUMBER: RX-31341-A
                                                  3 S
NAME : CLS-SERIES -- PART A
                                       Health
                                   Flammability MEAN
     CLS-63 Heat resistant, CLS-101
     Fast set, CLS-202 Regular,
                                    Reactivity
     CLS-303 Regular,
                       Personal Protective Equipment
                                           FLAMMABILITY
     CLS-404 Heat resistant
     trowel, CLS-505 Heat resistant trowel,
     CLS-773 Regular set, & CLS-70-4 Fast set
                                            REACTIVITY
CLASS : EPOXY BASE
                                            PERSONAL
---- Ingredient ----
                   ! Percent : C. A. S. : LEL : Vapor Pressure
Material Description
                   by weight: Registry No.: % : mm Hg @ 20 C
EPOXY RESIN
                      > 60
                            BLEND
                                     N/A
                                            N/A
Boiling Range: N/A - N/A deg F
                         Freezing Point: N/A deg F
Vapor Pressure: N/A mm @ 20 deg C Vapor Density: Lighter than air
                        H2O Soluble: Negligible ( < 0.1% )
Specific Gravity: N/A
Evaporation Rate:
            Slower
                         % Volatile by Volume: N/A
(relative to n-butyl acetate)
Appearance and Odor: WHITE COMPOUND, "DOUGH-LIKE" VISCOSITY
========= Section IV - Fire and Explosion Hazard Data ===========
Flash point: 465.0 deg F
                     Explosive Limits:
                                   LEL
                                        UEL (%V in air)
(Method Used) Pensky-Martens
                                   N/A
                                        N/A
FLAMMABILITY CLASSIFICATION
 OSHA: Combustible Liquid - Class IIIB
 DOT: Not regulated for flammability
EXTINGUISHING MEDIA:
Foam, alcohol foam, carbon dioxide, dry chemical, water fog.
SPECIAL FIRE FIGHTING PROCEDURES:
Fire fighters should wear a self-contained breathing apparatus with a
 full facepiece operated in a positive pressure mode.
Fire fighters should wear full protective clothing to guard against
 exposure to toxic and irritating fumes.
Spray containers exposed to fire and heat with water to keep cool.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Do not weld or use a cutting torch on or near drums, even if empty.
Empty drums contain residual material which may decompose to emit
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toxic or irritating fumes if burned.

Wash spill area with water. Do not allow contaminated water to enter sewers. WASTE DISPOSAL METHODS: Dispose of according to federal, state, and local regulations. Empty containers retain product residue and are subject to all of the handling instructions on this sheet. ========= Section IX - Special Protection Information ============== ------RESPIRATORY PROTECTION: A NIOSH/MSHA approved amine cartridge respirator is recommended. In emergencies, or if the TLV is greatly exceeded, use a positive pressure air supplied or self-contained breathing apparatus. VENTILATION: Mechanical or local exhaust is required to keep concentrations below the TLV and/or to prevent any accumulation of vapors. PROTECTIVE GLOVES: Chemical resistant gloves. EYE PROTECTION: Chemical safety glasses or splash goggles to prevent eye contact. Do not wear contact lenses. OTHER PROTECTIVE EQUIPMENT: As needed to prevent any skin contact. Eyewash stations and emergency showers should be available in the immediate work area. PRIMARY ROUTES OF ENTRY: Skin contact Absorption through the skin Inhalation ============== Section X - Special Precautions =============== HANDLING AND STORAGE PRECAUTIONS: Prevent all skin or eye contact with this product. Protective clothing must be worn while handling this product. Do not breathe vapors or mists. If sensitization to this material occurs, all future exposure should be prevented. Provide adequate ventilation during use. Wear an appropriate respirator during and after use unless airborne concentrations are known to be below the TLV. OTHER PRECAUTIONS: Keep containers tightly sealed and upright when not in use. Do not reseal containers if moisture contamination is suspected. SHIPPING INFORMATION: (DOT SHIPPING NAME; HAZARD CLASS; UN/NA NUMBER) Corrosive liquid, n.o.s.; Corrosive material; UN1760 While the information and recommendations set forth herein are

believed to be accurate as of the date hereof, C. L. Smith Inustrial Company makes no warranty with respect thereto and

disclaims any liability from reliance thereon.

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                               : LD50(mg/kg) : LC50(ppm)
---- Ingredient ---- : PEL : TLV (twa) : (rat) : (rat) : (rat) Material Description : | mg/m3: ppm : ORAL : DERMAL: INHAL
_______
ALIPHATIC POLYAMINE HARDENER N/A N/A N/A N/A N/A
                                              N/A
                       5.0 19.00 05.00 N/A N/A N/A
PHENOL
EFFECTS OF OVEREXPOSURE:
                     THRESHOLD LIMIT VALUES: See Section V
Can cause severe eye irritation or burns.
Skin contact causes severe irritation or burns, & can be sensitizing.
Phenol is harmful if inhaled or absorbed through the skin. Repeated
  exposure to phenol may cause damage to internal organs. In animal tests,
  doses which cause maternal toxicity also caused some birth defects.
Excessive inhalation of vapors can cause respiratory irritation, headaches,
  dizziness, and/or nausea.
Overexposure to vapors may also cause respiratory sensitization.
EMERGENCY AND FIRST AID PROCEDURES:
Flush eyes with large amounts of water for at least 15 minutes.
  Get immediate medical attention!
Immediately wash skin thoroughly with large amounts of soap and water.
  Get medical attention.
Remove contaminated clothing and wash before re-use.
If affected by vapors, remove patient to fresh air and get medical
  attention. Give oxygen or artificial respiration if necessary.
If any of this product is accidentally swallowed, immediate treatment
  is essential!
If swallowed, drink 2 glasses of water & induce vomiting.
  Get medical attention immediately!
CARCINOGENIC ACCORDING TO NTP, IARC, OR OSHA?
This product does not contain ingredients listed by NTP, IARC, or OSHA.
STABILITY: Stable
STABILITY CONDITIONS TO AVOID:
Exposure to heat or sparks.
INCOMPATABILITY (MATERIALS TO AVOID CONTACT WITH):
Strong acids, oxidizing agents, or epoxy resins in uncontrolled situations.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2
Nitrogen oxides
Traces of phenol vapors
HAZARDOUS POLYMERIZATION: Will not occur
POLYMERIZATION CONDITIONS TO AVOID:
None
STEPS FOR MATERIAL SPILLAGE:
Only properly protected personnel should remain in the area to contain
  the spill and transfer leaking containers.
Eliminate all ignition sources from the area.
Properly protected personnel should contain the spill & soak it up
  with absorbent material. Shovel the absorbed material into contain-
  ers for disposal.
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========= For chemicals, coatings, and related materials ===========
" DATE PREPARED:
11-16-87
NAME : C.L. Smith Industrial Company
                                  EMERGENCY PHONE NUMBER
ADDRESS: 1311 South 39th Street
                                       (314)-771-008
                                   DAY:
ADDRESS:
      St. Louis, MO
                                   NIGHT: (314)-771-0080
ADDRESS:
ZIPCODE: 63110
                                  INFORMATION PHONE NUMBER
                                        (314)-771-0030
NUMBER: RX-31341-B
NAME : CLS-773 REGULAR SET -- PART B
CLASS : EPOXY HARDENER
                       Personal Protective
 ---- Ingredient ---- | Percent | C. A. S. | LEL | Vapor Pressur Material Description | by weight | Registry No. | % | mm Hg @ 20 C
 ALIPHATIC POLYAMINE HARDENER 10 - 30 TRADE SECRET N/A
                                          N/A
                      5 - 10 108-95-2 1.5
 PHENOL
                                          01.00
 ------
 Boiling Range: N/A - N/A deg F Freezing Point: N/A deg F
Vapor Pressure: 01.0 mm @ 20 deg C Vapor Density: Lighter than air
                  H2O Soluble: Negligible ( < 0.1% )
 Specific Gravity: 01.56
 Evaporation Rate: Slower
                        % Volatile by Volume: 09.54 %
 (relative to n-butyl acetate)
                         -----
 Appearance and Odor: GREY, "DOUGH-LIKE" VISCOSITY, AMINE ODOR
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 ========= Section IV - Fire and Explosion Hazard Data =============
 Flash point: 180.0 deg F
                   Explosive Limits: LEL UEL (%V in air
 (Method Used) Pensky-Martens
                                  01.5
                                       06.7
 FLAMMABILITY CLASSIFICATION
  OSHA: Combustible Liquid - Class IIIA
  DOT : Combustible Liquid
 EXTINGUISHING MEDIA:
 Carbon dioxide, dry chemical, foam.
 SPECIAL FIRE FIGHTING PROCEDURES:
 Fire fighters should wear a self-contained breathing apparatus with a
  full facepiece operated in a positive pressure mode.
 Fire fighters should wear full protective clothing to guard against
  exposure to toxic and irritating fumes.
 Spray containers exposed to fire and heat with water to keep cool.
 UNUSUAL FIRE AND EXPLOSION HAZARDS:
 Do not weld or use a cutting torch on or near drums, even if empty.
 Empty drums contain residual material which may ignite explosively.
 Empty drums contain residual material which may decompose to emit
  toxic or irritating fumes if burned.
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; ; LD50(mg/kg) ; LC50(ppm)
 ---- Ingredient ----
Material Description
                  : PEL : TLV (twa) : (rat) : (rbt) : (rat) : (mg/m3: ppm : ORAL : DERMAL: INHAL
______
                                  N/A N/A N/A
                     N/A N/A N/A
EPOXY RESIN
EFFECTS OF OVEREXPOSURE: THRESHOLD LIMIT VALUES: See Section V
May cause moderate to severe eye irritation, redness, tearing, or
  blurred vision.
Skin contact may cause irritation or drying, and can be sensitizing.
EMERGENCY AND FIRST AID PROCEDURES:
Flush eyes with large amounts of water for at least 15 minutes.
  Consult a physician if irritation develops or persists.
Wash skin thoroughly with large amounts of soap and water.
  Consult a physician if irritation develops or persists.
Remove contaminated clothing and wash before re-use.
If affected by vapors, remove patient to fresh air and get medical
  attention. Give oxygen or artificial respiration if necessary.
 If swallowed, drink 2 glasses of water & induce vomiting.
  Get medical attention immediately!
CARCINOGENIC ACCORDING TO NTP, IARC, OR OSHA?
This product does not contain ingredients listed by NTP, IARC, or OSHA.
 ______
 ______
 STABILITY: Stable
 STABILITY CONDITIONS TO AVOID:
 None
 INCOMPATABILITY (MATERIALS TO AVOID CONTACT WITH):
 Strong oxidizing agents
 HAZARDOUS DECOMPOSITION PRODUCTS:
 CO. CO2
 HAZARDOUS POLYMERIZATION: Will not occur
 POLYMERIZATION CONDITIONS TO AVOID:
 ========== Section VIII - Spill or Leak Procedures ============
 _______
 STEPS FOR MATERIAL SPILLAGE:
 Properly protected personnel should contain the spill & soak it up
  with absorbent material. Shovel the absorbed material into contain-
  ers for disposal.
 WASTE DISPOSAL METHODS:
 Dispose of according to federal, state, and local regulations.
 Empty containers retain product residue and are subject to all of the
  handling instructions on this sheet.
 ========= Section IX - Special Protection Information ===========
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 RESPIRATORY PROTECTION:
 None normally needed.
 VENTILATION:
 Good room ventilation.
 PROTECTIVE GLOVES:
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Chemical resistant gloves.

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EYE PROTECTION:
Chemical safety glasses.
OTHER PROTECTIVE EQUIPMENT:
If needed to prevent unnecessary skin contact.
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PRIMARY ROUTES OF ENTRY: Skin contact Inhalation

HANDLING AND STORAGE PRECAUTIONS: Avoid unnecessary skin contact with this product.

Avoid breathing vapors.

Provide adequate ventilation during use.

Provide ventilation if this material is heated or baked during fusion.

NOTE: This MSDS covers only Part A of a two component epoxy system. Read the MSDS for the corresponding Part B component <u>before</u> mixing with Part B. Any mixture containing Part B will have the hazards of both compon-

B. Any mixture containing Part B will have the hazards of both components until the system is fused. All applicable precautions should be observed.

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OTHER PRECAUTIONS: Store in a cool, dry location.

Keep containers tightly sealed and upright when not in use.

SHIPPING INFORMATION: (DOT SHIPPING NAME; HAZARD CLASS; UN/NA NUMBER)
Plastic liquid, n.o.s.; None; None

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, C. L. Smith Inustrial Company makes no warranty with respect thereto and disclaims any liability from reliance thereon.