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======== For chemicals, coatings, and related materials =========
============== 'Essentially similar' to form OSHA-20 ===============
DATE PREPARED:
11-16-87
NAME : C.L. Smith Industrial Company
                                  EMERGENCY PHONE NUMBE
                                  DAY: (314)-771-008
ADDRESS: 1311 South 39th Street
                                  NICHT: (314)-771-008
ADDRESS: St. Louis, MO
ADDRESS:
                                 INFORMATION PHONE NUMBER
ZIPCODE: 63110
                                       (314)-771-008
NUMBER: RX-31341-B
NAME : CLS-773 REGULAR SET -- PART B
CLASS : EPOXY HARDENER
                      Personal Protective
--- Ingredient --- ! Percent : C. A. S. : LEL : Vapor Pressur
                  by weight Registry No.: % : mm Hg @ 20 C
Material Description
_____
ALIPHATIC POLYAMINE HARDENER
                    10 - 30 TRADE SECRET N/A
                                         N/A
                    5 - 10 108-95-2
                                         01.00
                                  1.5
PHENOL
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
========== Section IV - Fire and Explosion Hazard Data ============
Flash point: 180.0 deg F
                 Explosive Limits: LEL UEL (%V in ai
(Method Used) Pensky-Martens
                                01.5
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(pp
: : LD50(mg/kg) : LC50(p
--- Ingredient --- : PEL : TLV (twa) : (rat) : (rat) : (rat) : (mg/m3: ppm : ORAL : DERMAL: INHAL
ALIPHATIC POLYAMINE HARDENER N/A N/A N/A N/A N/A N/A PHENOL 5.0 19.00 05.00 N/A N/A N/A
                                                N/A
THRESHOLD LIMIT VALUES: See Section V
EFFECTS OF OVEREXPOSURE:
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 test
 doses which cause maternal toxicity also caused some birth defects.
Excessive inhalation of vapors can cause respiratory irritation, headach
 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 situati
HAZARDOUS DECOMPOSITION PRODUCTS:
CO. CO2
Nitrogen oxides
Traces of phenol vapors
HAZARDOUS POLYMERIZATION: Will not occur
POLYMERIZATION CONDITIONS TO AVOID:
None
========= Section VIII - Spill or Leak Procedures ==========
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
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with absorbent material. Shovel the absorbed material into contain-

ers for disposal.

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 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.

======== For chemicals, coatings, and related materials ========== =========== 'Essentially similar' to form OSHA-20 ================== DATE PREPARED: 11-16-87 EMERGENCY PHONE NUMBER NAME : C.L. Smith Industrial Company 1311 South 39th Street DAY: (314)-771-0080 ADDRESS: St. Louis, MO NIGHT: (314)-771-0080 ADDRESS: ADDRESS: INFORMATION PHONE NUMBER ZIPCODE: 63110 (314)-771-0080 ______ ______ NUMBER: RX-31341-A H M 1 S Health NAME : CLS-SERIES -- PART A CLS-63 Heat resistant, CLS-101 Flammability HEAR 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 ! Percent : C. A. S. : LEL : Vapor Pressure ---- Ingredient ----Material Description iby weight:Registry No.: % : mm Hg @ 20 C ______ BLEND N/A N/A EPOXY RESIN > 60 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 % Volatile by Volume: N/A Evaporation Rate: Slower (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: UEL (%V in air) LEL N/A (Method Used) Pensky-Martens N/A FLAMMABILITY CLASSIFICATION OSHA: Combustible Liquid - Class IllB 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 toxic or irritating fumes if burned.

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:
                                : LD50(mg/kg) : LC50(ppm)
---- Ingredient ----
                   : PEL : TLV (twa) : (rat) : (rbt) : (rat)
Material Description
                    : img/m3: ppm : ORAL :DERMAL: INHAL
EPOXY RESIN
                     N/A N/A
                            N/A
                                N/A
                                      N/A
______
______
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:
None
========= 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 ============
RESPIRATORY PROTECTION:
None normally needed.
VENTILATION:
Good room ventilation.
PROTECTIVE GLOVES:
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Chemical resistant gloves.

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OTHER PROTECTIVE EQUIPMENT:
 If needed to prevent unnecessary skin contact.
 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 before mixing with Part
  B. Any mixture containing Part B will have the hazards of both compon-
  ents until the system is fused. All applicable precautions should be
  observed
 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.
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EYE PROTECTION:

Chemical safety glasses.