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FOR COATINGS, RESINS, AND RELATED MATERIALS
 (APPROVED BY THE U.S. DEPARTMENT OF LABOR AS
 'ESSENTIALLY SIMILAR' TO FORM OSHA-20)
 (MEETS REQUIREMENTS OF CFR 29 PART 1910.1200,
 OSHA'S HAZARD COMMUNICATION STANDARD)

NPCA 1-84

N231 SECTION 01 - MANUFACTURER AND PRODUCT INFORMATION

MANUFACTURER: TNE-EC COMPANY, INC.
 123 WEST 23RD AVENUE
 NORTH KANSAS CITY, MO.
 64110-3064

DATE PRINTED: 05/28/93
 CURRENT FORMULA DATE: 12/04/92

EMERGENCY TELEPHONE NO.: 816-474-1425
 INFORMATION TELEPHONE NO.: 816-474-3400

PREVIOUS FORMULA DATE: 01/17/92

TRADE NAME: SERIES 066 HI-BUILD EPOXCLINE

MANUFACTURER'S CODE IDENTIFICATION: F056-1211A COLOR: PRIMER

PRODUCT CLASS: POLYAMIDE

SECTION 02 - HAZARDOUS INGREDIENTS

INGREDIENT: IRON OXIDE FUME
 PERCENT BY WEIGHT: PROPRIETARY
 OCCUPATIONAL EXPOSURE LIMITS: CAS#: 1309-37-1

ACGIH: TLV - TWA	5.000	MG/M3
ACGIH: TLV - STEL	.000	NO INFO AVAILABLE
ACGIH: TLV - C	.000	NO INFO AVAILABLE
OSHA: PEL - TWA	10.000	MG/M3
OSHA: PEL - STEL	.000	NO INFO AVAILABLE
OSHA: PEL - C	.000	NO INFO AVAILABLE

VAPOR PRESSURE:
 Not applicable

INGREDIENT: CRYSTALLINE SILICA (QUARTZ, RESPIRABLE DUST)
 PERCENT BY WEIGHT: 1.950%
 OCCUPATIONAL EXPOSURE LIMITS: CAS#: 14808-60-7

ACGIH: TLV - TWA	.100	MG/M3
ACGIH: TLV - STEL	.000	NO INFO AVAILABLE
ACGIH: TLV - C	.000	NO INFO AVAILABLE
OSHA: PEL - TWA	.100	MG/M3
OSHA: PEL - STEL	.000	NO INFO AVAILABLE
OSHA: PEL - C	.000	NO INFO AVAILABLE

VAPOR PRESSURE:
 Not applicable

INGREDIENT: TALC (NO ASBESTOS FIBERS/RESPIRABLE DUST)
 PERCENT BY WEIGHT: PROPRIETARY
 OCCUPATIONAL EXPOSURE LIMITS: CAS#: 14807-96-6

ACGIH: TLV - TWA	2.000	MG/M3
ACGIH: TLV - STEL	.000	NO INFO AVAILABLE
ACGIH: TLV - C	.000	NO INFO AVAILABLE
OSHA: PEL - TWA	2.000	MG/M3
OSHA: PEL - STEL	.000	NO INFO AVAILABLE
OSHA: PEL - C	.000	NO INFO AVAILABLE

VAPOR PRESSURE:
 Not applicable

INGREDIENT: BARIUM SULFATE (TOTAL DUST)
 PERCENT BY WEIGHT: PROPRIETARY
 OCCUPATIONAL EXPOSURE LIMITS: CAS#: 7727-43-7

ACGIH: TLV - TWA	10.000	MG/M3
ACGIH: TLV - STEL	.000	NO INFO AVAILABLE
ACGIH: TLV - C	.000	NO INFO AVAILABLE
OSHA: PEL - TWA	10.000	MG/M3
OSHA: PEL - STEL	.000	NO INFO AVAILABLE
OSHA: PEL - C	.000	NO INFO AVAILABLE

VAPOR PRESSURE:
 Not applicable

INGREDIENT: POLYAMIDE RESIN
 PERCENT BY VOLUME: PROPRIETARY
 OCCUPATIONAL EXPOSURE LIMITS: CAS#:

ACGIH: TLV - TWA	.000	NO INFO AVAILABLE
ACGIH: TLV - STEL	.000	NO INFO AVAILABLE
ACGIH: TLV - C	.000	NO INFO AVAILABLE
OSHA: PEL - TWA	.000	NO INFO AVAILABLE

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OSHA: PEL - C .000 NO INFO AVAILABLE
 VAPOR PRESSURE: .000 NO INFO AVAILABLE

The information contained in this section is considered confidential and proprietary and should be used only for safety and health purposes.

INGREDIENT: N-BUTANOL (SKIN)

PERCENT BY VOLUME: 18.500%

CAS#: 71-36-3

OCCUPATIONAL EXPOSURE LIMITS:

ACGIH: TLV - TWA .000 NO INFO AVAILABLE
 ACGIH: TLV - STEL .000 NO INFO AVAILABLE
 ACGIH: TLV - C 50.000 PPM
 OSHA: PEL - TWA 100.000 PPM
 OSHA: PEL - STEL .000 NO INFO AVAILABLE
 OSHA: PEL - C 50.000 PPM
 VAPOR PRESSURE: 4.400 MMHG AT 20C

INGREDIENT: TRIETHYLENE TETRAMINE

PERCENT BY VOLUME: 1.470%

CAS#: 112-24-3

OCCUPATIONAL EXPOSURE LIMITS:

ACGIH: TLV - TWA .000 NO INFO AVAILABLE
 ACGIH: TLV - STEL .000 NO INFO AVAILABLE
 ACGIH: TLV - C .000 NO INFO AVAILABLE
 OSHA: PEL - TWA .000 NO INFO AVAILABLE
 OSHA: PEL - STEL .000 NO INFO AVAILABLE
 OSHA: PEL - C .000 NO INFO AVAILABLE
 VAPOR PRESSURE: .000 NO INFO AVAILABLE
 Not applicable

INGREDIENT: ETHYL BENZENE

PERCENT BY VOLUME: 5.090%

CAS#: 100-41-4

OCCUPATIONAL EXPOSURE LIMITS:

ACGIH: TLV - TWA 100.000 PPM
 ACGIH: TLV - STEL 125.000 PPM
 ACGIH: TLV - C .000 NO INFO AVAILABLE
 OSHA: PEL - TWA 100.000 PPM
 OSHA: PEL - STEL 125.000 PPM
 OSHA: PEL - C .000 NO INFO AVAILABLE
 VAPOR PRESSURE: 6.000 MMHG AT 20C

INGREDIENT: XYLENE

PERCENT BY VOLUME: 21.940%

CAS#: 1330-20-7

OCCUPATIONAL EXPOSURE LIMITS:

ACGIH: TLV - TWA 100.000 PPM
 ACGIH: TLV - STEL 150.000 PPM
 ACGIH: TLV - C .000 NO INFO AVAILABLE
 OSHA: PEL - TWA 100.000 PPM
 OSHA: PEL - STEL 150.000 PPM
 OSHA: PEL - C .000 NO INFO AVAILABLE
 VAPOR PRESSURE: 5.100 MMHG AT 20C

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SECTION 03 - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

ACUTE (SHORT TERM):

INHALATION - OVEREXPOSURE TO SOLVENT VAPORS OR SPRAY MIST MAY CAUSE:
 Nasal and respiratory irritation, anesthetic effects, dizziness, possible unconsciousness and asphyxiation, stupor, weakness, fatigue, nausea, and headache.

INHALATION - OVEREXPOSURE TO FREE PIGMENT DUST MAY CAUSE:
 Coughing, wheezing, shortness of breath, restricted nasal passages, lung injury.

INHALATION - OTHER:

Not applicable

SKIN - PROLONGED OR REPEATED CONTACT MAY CAUSE:

Moderate irritation, drying of skin, defatting and possible dermatitis.

EYES - CONTACT MAY RESULT IN:

Redness, tearing, blurred vision.
 May result in permanent visual loss.
 Severe irritation.

INGESTION MAY RESULT IN:

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aspiration into the lungs which can be fatal.

CHRONIC (LONG TERM, CUMULATIVE):

Prolonged inhalation of dusts containing crystalline silica may result in the development of a lung disease known as silicosis.
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 vapors may be harmful or fatal.
 Prolonged or repeated contact with skin may cause primary irritation, dermatitis, or allergic skin reactions.
 Possible cancer hazard. Contains crystalline silica which may cause cancer based on animal data. (Risk of cancer depends on duration and level of exposure). IARC indicates there is sufficient evidence for carcinogenicity of crystalline silica to experimental animals; IARC also indicates there is limited evidence for carcinogenicity to humans.

TARGET ORGAN EFFECTS:

ANIMAL AND/OR HUMAN STUDIES OF CERTAIN CHEMICALS IN THIS PRODUCT HAVE SHOWN THE FOLLOWING TARGET ORGAN EFFECTS:

- Can cause liver damage.
- Can cause kidney damage.
- Can cause lung damage.
- Can cause nervous system effects.
- Can cause cancer. Risk of cancer depends on duration and level of exposure.
- Can cause skin sensitization.
- Can cause eye irritation.
- Can cause skin irritation.
- Can cause respiratory tract irritation.
- Can cause gastrointestinal tract irritation.

TOXICITY INFORMATION:

Consult various toxicology references such as NIOSH's "Registry of Toxic Effects of Chemical Substances" or Sax's "Dangerous Properties of Industrial Chemicals" for specific toxicity information regarding hazardous ingredients.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY OVEREXPOSURE:

Not applicable

PRIMARY ROUTES OF ENTRY:

Dermal and Inhalation.

EMERGENCY AND FIRST AID PROCEDURES:**INHALATION:**

Remove affected individual to fresh air. Treat symptomatically. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Consult a physician.

SKIN CONTACT:

Wash affected area with soap and water. Remove contaminated clothing. Dispose of or launder accordingly. Consult a physician if skin irritation persists.

EYE SPLASH:

Flush immediately with large amounts of clean water under low pressure for at least 15 minutes. Consult a physician.

INGESTION:

Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult a physician or poison control center IMMEDIATELY. Treat symptomatically.

PROPOSITIONS:

Pigments and/or other raw materials present in this product contain trace amounts of a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

OTHER:

This product when mixed with other components acquires the hazards of all components.

SECTION 04 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (F) (SETA FLASH CLOSED CUP): 022

LOWER EXPLOSIVE LIMIT (LEL) : 1.00

FLAMMABILITY CLASSIFICATION:**OSHA:**

Flammable liquid - Class IC

DOT:

Flammable liquid

EXTINGUISHING MEDIA:

Foam, carbon dioxide, and dry chemical.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep away from heat, open flames, sparks, and areas where static charge may be generated. Do not apply to hot surfaces due to possible fire and explosion risk. For closed containers, pressure build-up and possible explosion might occur due to extreme heat.

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exposure. Solvent vapors are heavier than air and may travel considerable distance to a source of ignition and flash back.

SPECIAL FIRE-FIGHTING PROCEDURES:

Water may be used to cool unruptured containers. Wear self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode to prevent inhalation of hazardous decomposition products. Use appropriate extinguishing media to control fire. Water may cause violent frothing if sprayed directly into containers of burning liquid.

SECTION 05 - REACTIVITY DATA**STABILITY:**

Stable.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong oxidizing agents.
Bases.
Acids.

CONDITIONS TO AVOID:

Heat, sparks, open flames.
Epoxy compounds under uncontrolled conditions.
Isocyanate compounds under uncontrolled conditions.

HAZARDOUS DECOMPOSITION PRODUCTS - FIRE, BURNING OR WELDING OF COATING PRODUCTS MAY FORM:

Carbon monoxide, carbon dioxide, hydrocarbon fragments
Nitrogen monoxide, nitrogen dioxide
Trace amounts of HCN.

HAZARDOUS POLYMERIZATION:

Will not occur.

SECTION 06 - SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.

WASTE DISPOSAL METHOD:

Dispose of in accordance with Federal, state, and local regulations regarding pollution.

SECTION 07 - SAFE HANDLING AND USE INFORMATION**RESPIRATORY PROTECTION:**

Respiratory protective devices must be used when engineering and administration controls are not adequate to maintain Threshold Limit Values (TLV) and Permissible Exposure Limits (PEL) of airborne contaminants below the listed values for those hazardous ingredients identified in Section II of this MSDS. Observe OSHA regulations for respirator use (CFR 29, 1910.134) whenever a respirator is used. Particulate, chemical cartridge, air purifying half-mask respirators can be used within certain limitations; consult the respirator manufacturer for specific uses and limitations. Where airborne contaminant concentrations are unknown, the use of a NIOSH/MSHA approved fresh-air supplied respirator is mandatory.

VENTILATION:

Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH's Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

Heavier than air solvent vapors should be removed from lower levels of work area due to potential explosion hazard and all ignition sources (non-explosion proof equipment) should be eliminated if flammable mixtures will be encountered.

PROTECTIVE GLOVES:

Chemical resistant.

EYE PROTECTION:

Use chemical resistant splash type goggles.

OTHER PROTECTIVE EQUIPMENT:

Use protective cream where skin contact is likely.

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and clothing contamination.
 HYGENIC PRACTICES:

Wash hands and other contaminated skin areas with warm soap and water before eating.

 SECTION 08 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in dry area. Keep closures tight and upright to prevent leakage. Do not store in high temperature areas or near fire or open flame. Refer to product data sheet for recommended storage temperatures.

OTHER PRECAUTIONS:

Do not use near heat, sparks, or open flame. Use approved grounding procedures. Prevent prolonged breathing of vapor or spray mist. Prevent contact with skin and eyes. Do not take internally. Keep out of reach of children. Do not reuse or alter containers without proper industrial cleaning. Do not weld or flame cut empty, uncleaned containers due to potential fire and explosion hazard. Consult product data sheet for proper application instructions.

 SECTION 09 - PHYSICAL DATA

BOILING RANGE (F AT 760 MMHG): 241 - 288
 VAPOR DENSITY: HEAVIER THAN AIR
 WEIGHT PER GALLON: 14.59
 % VOLATILE BY VOLUME: 45.580
 % SOLIDS BY WEIGHT: 78.158
 EVAPORATION RATE: SLOWER - ETHYL ETHER
 VOC (LBS/GAL): 7.180

 SECTION 10 - OTHER INFORMATION

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

*
 To the best of our knowledge, the information contained herein is accurate. However, neither the Inemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

 SECTION 11 - RIGHT-TO-KNOW INFORMATION

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 311 OF THE EMERGENCY PLANNING & COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372:

CAS NO.	CHEMICAL NAME	% BY WGT
7727-43-7	BARIUM SULFATE (TOTAL DUST)	36.240
71-36-3	N-BUTANOL (SKIN)	8.480
100-41-4	ETHYL BENZENE	2.520
1330-20-7	XYLENE	10.800