

MSDS: 100 REVISION: 007  
REVISION DATE: 03/04/92HILTI, INC.  
5400 S. 122ND EAST AVE.  
TULSA, OK 74146TELEPHONE:  
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## MATERIAL SAFETY DATA SHEET

HASKELL CORPORATION +  
1001 MEADOR  
P O BOX 917  
BELLINGHAM WA 98227HASKELL CORPORATION +  
1001 MEADOR  
(PO#85619/STEVE MARSHALL)  
BELLINGHAM WA 98226DATE: 05/03/93  
INVOICE NUMBER: 38399601  
PURCHASE ORDER NUMBER: 85619

PRODUCT NAME: HEA

DESCRIPTION: VINYL ESTER RESIN SYSTEM PACKED IN SEALED GLASS TUBES. PART A IS IN THE OUTER TUBE AND PART B IS IN THE INNER TUBE.

## INGREDIENTS AND EXPOSURE LIMITS

INGREDIENTS:	CAS NUMBER:	PEL:	TLV:	STEL:
PART A: STYRENE	00100-42-5	50 PPM	50 PPM (SKIN)	100 PPM (SKIN)
VINYL ESTER RESIN	62395-94-2	NE	NE	NE
PART B: DIBENZOYL PEROXIDE	00094-36-0	5 MG/M3	5 MG/M3	NE
SILICA	14808-60-7	0.1 MG/M3 *	0.1 MG/M3 *	NE

\* AS RESPIRABLE DUST)

PEL = OSHA PERMISSIBLE EXPOSURE LIMIT. TLV = ACGIH THRESHOLD LIMIT VALUE. THESE ARE 8-HOUR TIME-WEIGHTED AVERAGES UNLESS OTHERWISE INDICATED BY "C" (CEILING) OR "STEL" (SHORT TERM EXPOSURE LIMIT). A "SKIN" NOTATION INDICATES EXPOSURES SHOULD BE CONTROLLED FOR THE CUTANEOUS ROUTES INCLUDING THE MUCOUS MEMBRANES, EYES AND SKIN. AIRBORNE EXPOSURES AS WELL AS DIRECT CONTACT MUST BE CONSIDERED. NA = NOT APPLICABLE. NE = NONE ESTABLISHED.

## PHYSICAL DATA

APPEARANCE AND ODOR: PART A: LIGHT YELLOW VISCOUS LIQUID, STYRENE ODOR. PART B: GRAY GRAVEL-LIKE MATERIAL.  
 BOILING POINT: PART A: 248-282 F. PART B: DECOMPOSES @ 150 F.  
 MELTING POINT: NOT DETERMINED  
 VOC CONTENT: 380 G/L  
 VAPOR DENSITY: 3.6 (STYRENE)  
 SOLUBILITY IN WATER: NIL

VAPOR PRESSURE: 6 MM HG @ 68 F (STYRENE)  
 EVAPORATION RATE: NOT DETERMINED  
 SPECIFIC GRAVITY: PART A: 1.07 PART B: 2.61  
 PH: NOT DETERMINED

## FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 93 F. (TCC) FLAMMABLE LIMITS: LOWER: 1.1% UPPER: 6.1%  
 EXTINGUISHING MEDIA: CO2, DRY CHEMICAL, FOAM, WATER  
 SPECIAL FIRE FIGHTING PROCEDURES: COOL WITH WATER SPRAY. USE A SELF-CONTAINED BREATHING APPARATUS WHEN FIGHTING FIRES INVOLVING CHEMICALS.  
 UNUSUAL FIRE AND EXPLOSION HAZARDS: ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS, AND OPEN FLAME. FLAMMABLE. THERMAL DECOMPOSITION CAN YIELD CO AND CO2. GLASS TUBES WILL BURST WHEN EXPOSED TO EXTREME HEAT.

## REACTIVITY DATA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR. STABILITY: STABLE AT TEMPERATURES BELOW 122 F.  
 INCOMPATIBILITY: STRONG ACIDS, PEROXIDES, AND OTHER OXIDIZING AGENTS.  
 HAZARDOUS DECOMPOSITION PRODUCTS: CO2, CO.  
 CONDITIONS TO AVOID: OPEN FLAMES OR SPARKS. STORAGE ABOVE 84 F AND BELOW 32 F. STYRENE WILL POLYMERIZE AT ELEVATED TEMPERATURES. DIBENZOYL PEROXIDE WILL DECOMPOSE AT TEMPERATURES > 150 F.

## HEALTH HAZARD DATA

KNOWN HAZARDS: CAUSES EYE BURNS, SKIN IRRITANT. CAN HAVE AN ANESTHETIC EFFECT IF INHALED. CAN CAUSE ALLERGIC SKIN AND RESPIRATORY REACTIONS.  
 CARCINOGENICITY: THE IARC CLASSIFIES STYRENE AS A GROUP-2B ANIMAL CARCINOGEN. THIS CLASSIFICATION IS BASED UPON LIMITED EVIDENCE ASSOCIATED WITH ANIMAL STUDIES AND INADEQUATE EVIDENCE ASSOCIATED WITH STUDIES OF STYRENE WORKERS. CRYSTALLINE SILICA (SAND) IS CONSIDERED BY IARC TO BE A GROUP-2A ANIMAL CARCINOGEN. THE NATURE AND USE OF THIS PRODUCT, HOWEVER, DOES NOT POSE A CANCER RISK TO HUMANS.  
 PRIMARY ROUTES OF EXPOSURE: DERMAL. INHALATION.  
 SIGNS AND SYMPTOMS OF EXPOSURE: CONTACT CAUSES EYE BURNS. PROLONGED AND REPEATED CONTACT CAN

CAUSE SKIN IRRITATION. "STYRENE SICKNESS" (DROWSINESS, NAUSEA, HEADACHE, FATIGUE, AND DIZZINESS) HAS BEEN MENTIONED IN WORKERS EXPOSED AT 200-700 PPM. STYRENE EXPOSURE LEVELS ANTICIPATED FROM ROUTINE USE ARE LESS THAN 5 PPM.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: EYE, SKIN, AND RESPIRATORY CONDITIONS.

#### EMERGENCY AND FIRST AID PROCEDURES

EYES: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

SKIN: WASH WITH SOAP AND WATER. LAUNDRER CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: MOVE VICTIM TO FRESH AIR. GIVE OXYGEN AND/OR ARTIFICIAL RESPIRATION IF NEEDED. CALL A PHYSICIAN.

INGESTION: GIVE PLENTY OF WATER TO DRINK. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DO NOT INDUCE VOMITING UNLESS DIRECTED TO BY A PHYSICIAN. CALL A PHYSICIAN.

OTHER: REFERRAL TO A PHYSICIAN IS RECOMMENDED IF THERE IS ANY QUESTION ABOUT THE SERIOUSNESS OF THE INJURY/EXPOSURE.

#### CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

VENTILATION: GENERAL (I.E NATURAL OR MECHANICALLY INDUCED FRESH AIR MOVEMENTS).

EYE PROTECTION: SAFETY GLASSES (SIDE SHIELDS RECOMMENDED). IF EYE DISCOMFORT OCCURS FROM VAPOR EXPOSURE, WEAR CHEMICAL GOGGLES.

SKIN PROTECTION: COTTON OR IMPERMEABLE (NEOPRENE OR RUBBER) GLOVES.

RESPIRATORY PROTECTION: NONE NORMALLY REQUIRED. USE A NIOSH-APPROVED ORGANIC VAPOR RESPIRATOR WHEN VAPOR CONCENTRATIONS EXCEED RECOMMENDED EXPOSURE LIMITS.

#### PRECAUTIONS FOR SAFE HANDLING AND USE

HANDLING AND STORING PRECAUTIONS: PRODUCT HAS LIMITED SHELF LIFE (REFER TO PACKAGE DATE CODE). KEEP IN A COOL DRY PLACE OUT OF DIRECT RAYS OF THE SUN. STORE BELOW 84 F. KEEP FROM FREEZING. FLAMMABLE. KEEP AWAY FROM IGNITION SOURCES SUCH AS EXCESSIVE HEAT, SPARKS, AND OPEN FLAMES. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING VAPORS. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

SPILL PROCEDURES: REMOVE ALL SOURCES OF IGNITION. COVER WITH ABSORBENT MATERIAL AND PLACE IN SALVAGE CONTAINER FOR PROPER DISPOSAL.

#### REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION: THIS MSDS HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD. THIS PRODUCT IS A HAZARDOUS CHEMICAL UNDER THAT STANDARD.

HMS CODES: HEALTH 2, FLAMMABILITY 3, REACTIVITY 1, PPE B

DOT PROPER SHIPPING NAME: RESIN SOLUTION, FLAMMABLE LIQUID, UN1866 (OR CONSUMER COMMODITY, ORM-D)

TSCA INVENTORY STATUS: CHEMICAL COMPONENTS LISTED ON TSCA INVENTORY.

SARA TITLE III, SECTION 313: THIS PRODUCT CONTAINS 5-15% STYRENE (CAS # 100-42-5) AND 2-10% BENZOYL PEROXIDE (CAS # 94-36-0), WHICH ARE SUBJECT TO REPORTING UNDER SECTION 313 OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

WASTE DISPOSAL METHODS: CONSULT WITH REGULATORY AGENCIES OR CORPORATE PERSONNEL FOR DISPOSAL METHODS THAT COMPLY WITH LOCAL, STATE, AND FEDERAL HEALTH AND ENVIRONMENTAL REGULATIONS.

CONTACTS: TECHNICAL: CHRIS GILL  
HEALTH/SAFETY: STEVE GERRARD

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