



HI-TECH KOREA CO., LTD.

191-7, SUWORAM-RI, SEOTAN-MYEON, PYONGTAEK-SI, KYEONGGI, KOREA
TEL NO. : +82-31-665-5093~4 // FAX NO. +82-31-611-9783
URL : <http://www.hitechkorea92.com> // EMAIL : hitechkorea92@unitel.co.kr

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- 1) PRODUCT NAME : UNIQUE 3075BHF
- 2) CHEMICAL FAMILY : FORMULATED EPOXY RESIN
- 3) TYPICAL APPLICATIONS : UNDERFILL
- 3) MANUFACTURER :
 - NAME : HI-TECH KOREA CO., LTD.
 - ADDRESS : # 191-7, SUWORAM-RI, SEOTAN-MYEON, PYONGTAEK-SI, KYEONGGI-DO, KOREA
 - TELEPHONE NUMBER : +82-31-665-5093~4
 - FACSIMILE NUMBER : +82-31-611-9783
 - DEPARTMENT : RESEARCH & DEVELOPMENT CENTER
 - DATE OF REVISION : JANUARY 16, 2012

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		CAS NO.	CONCENTRATION (% by weight)
RESIN	BISPHENOL F	54208-63-8	50.0 ~ 60.0
	POLYSULFIDE MODIFIED EPOXY RESIN	68611-50-7	5.0 ~ 10.0
	POLYGLYCIDYL EPOXIDE	26142-45-5	15.0 ~ 25.0
HARDENER	MODIFIED POLYAMINE	-	10.0 ~ 20.0
	AMINE ADDUCT	134091-76-2	5.0 ~ 10.0
PIGMENT	CARBON BLACK	133-86-4	0.1 ~ 0.2

3. HAZARDS IDENTIFICATION

- 1) NFPA RATING (SCALE OF 0 TO 4) : HEALTH = 1, FLAMMABILITY = 0, REACTIVITY = 0
- 2) EMERGENCY OVERVIEW
 - ① WARNING
EYE IRRITANT, SKIN IRRITANT, SKIN SENSITIZER
 - ② POTENTIAL HEALTH EFFECTS
 - EYE CONTACT :
WILL CAUSE EYE IRRITATION.
MAY CAUSE PERMANENT DAMAGE IF EYE IS NOT IMMEDIATELY IRRIGATED.



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- SKIN CONTACT :

IRRITATING TO THE SKIN.

REPEATED AND/OR PROLONGED CONTACT MAY CAUSE IRRITATION AND SKIN SENSITIZATION.

- INGESTION :

UNLIKELY TO BE HAZARDOUS IF SWALLOWED. LOW ORAL TOXICITY.

4. FIRST-AID MEASURES

- 1) EYE CONTACT : IMMEDIATELY IRRIGATE WITH EYEWASH SOLUTION OR CLEAN WATER, HOLDING THE EYELIDS APART, FOR AT LEAST 15 MINUTES.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
- 2) SKIN CONTACT : WASH SKIN WITH SOAP AND WATER. IF SYMPTOMS DEVELOP, OBTAIN MEDICAL ATTENTION.
- 3) INHALATION : REMOVE TO FRESH AIR. ADMINISTER OXYGEN TO AID BREATHING.
GET MEDICAL ATTENTION.
- 4) INGESTION : DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
IF INDIVIDUAL IS CONSCIOUS, GIVE WATER TO DILUTE STOMACH CONTENTS.
GET PROMPT MEDICAL ATTENTION.

5. FIREFIGHTING MEASURES

- 1) AUTOIGNITION : $\geq 300^{\circ}\text{C}$
- 2) FLASH POINT : $\geq 120^{\circ}\text{C}$
- 3) EXTINGUISHING MEDIA : FOAM, WATER FOG, CO₂; DRY CHEMICAL
- 4) SPECIAL FIREFIGHTING PROCEDURES :
A SELF CONTAINED BREATHING APPARATUS AND SUITABLE PROTECTIVE CLOTHING SHOULD BE WORN IN FIRE CONDITIONS.; COOL EXPOSED EQUIPMENT WITH WATER SPRAY.
- 5) FIRE & EXPLOSION HARZARDS :
COMBUSTION WILL EVOLVE TOXIC AND IRRITANT VAPORS. PROLONGED EXPOSURE TO ELEVATED TEMPERATURES MAY CAUSE UNCONTROLLED EXOTHERMIC REACTIONS RESULTING IN DECOMPOSITION AND CHARRING OF THE MATERIAL.
- 6) HARZADOUS COMBUSTION PRODUCTS :
THERMAL DECOMPOSITION MAY RELEASE ACRID SMOKE AND IRRITATING FUMES.
CARBON MONOXIDE, CARBON DIOXIDE



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6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES

EVACUATE IMMEDIATE AREA AND DIKE AREA TO CONTAIN SPILL. EXTINGUISH OPEN FLAMES AND IGNITION SOURCES IN THE IMMEDIATE AREA. WEAR PROPER PROTECTIVE CLOTHING, GLOVES, AND SPLASH GOGGLES. ABSORB AS MUCH OF SPILLED MATERIAL AS POSSIBLE WITH RAGS, SAND, VERMICULITE OR OTHER ABSORBENT MATERIAL. SCRAPE ABSORBED MATERIAL INTO DESIGNATED WASTE CONTAINERS. WASH AREA THOROUGHLY WITH DETERGENT AND RINSE, TAKING CARE TO PREVENT RUNOFF INTO DRAINS OR OTHER WATERWAYS. ALL SPILLED MATERIAL, ABSORBED WASTE AND WASH WATER MUST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL STATE AND LOCAL REGULATIONS.

FOR SAFETY AND ENVIRONMENTAL PRECAUTIONS, PLEASE REVIEW ENTIRE MATERIAL SAFETY DATA SHEET FOR NECESSARY INFORMATION.

7. HANDLING AND STORAGE

- 1) STORAGE TEMPERATURE : 5~10°C
- 2) SHELF LIFE : 6 MONTHS
- 3) HANDLING/STORAGE : KEEP IN ORIGINAL CONTAINERS UNTIL POINT OF USE.
STORE IN A REFRIGERATOR SET AT 5~10°C.
- 4) SENSITIVITY TO STATIC ELECTRICITY : NO
- 5) SPECIAL SENSITIVITY AVOID EXCESSIVE HEAT.
- 6) SENSITIVITY TO MECHANICAL IMPACT : NO

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 1) VENTILATION REQUIREMENTS : NORMAL ROOM VENTILATION SHOULD BE ADEQUATE. IF VAPORS OR DUST ARE BOTHERSOME NEAR THE WORK AREA, LOCAL MECHANICAL VENTILATION SHOULD BE PROVIDED.
- 2) EYE PROTECTION REQUIREMENTS : SAFETY GLASSES, GOGGLES OR FACE SHIELD TO PROTECT AGAINST SPLASHING.
- 3) GLOVE REQUIREMENTS : IMPERVIOUS NEOPRENE OR RUBBER GLOVES ARE RECOMMENDED.
- 4) CLOTHING REQUIREMENTS : WEAR PROTECTIVE EQUIPMENT TO COMPLY WITH GOOD CCUPATIONAL HYGIENE PRACTICE.



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- 5) CHANGE/REMOVAL OF CLOTHING : REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE.
- 6) WASH REQUIREMENTS : WASH BEFORE EATING, DRINKING, OR USING TOILET FACILITIES.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 1) PHYSICAL FOAM : PASTE
- 2) COLOR : BLACK
- 3) SPECIFIC GRAVITY (WATER = 1) : 1.1 ~ 1.2
- 4) VISCOSITY (cps) : 1,500 ~ 2,500
- 5) THIXOTROPIC INDEX : NOT AVAILABLE
- 6) WATER ABSORPTION (wt%) : ≤ 1.0
- 7) SOLUBILITY IN WATER : SLIGHTLY SOLUBLE

10. STABILITY AND REACTIVITY

- 1) STABILITY : STABLE
- 2) STABILITY DETAIL : MATERIAL IS STABLE UNDER RECOMMENDED STORAGE TEMPERATURES AND PRESSURES
- 3) MATERIALS TO AVOID : STRONG ACIDS, STRONG BASES, STRONG OXIDIZERS, AMINES
- 4) CONDITIONS TO AVOID : EVAPORATED TEMPERATURE
- 5) HAZARDOUS DECOMPOSITION PRODUCTS : CARBON MONOXIDE, CARBOND DIOXIDE, UNKNOWN HYDROCARBON
- 6) HAZARDOUS POLYMERIZATION CONDITIONS : MAY POLYMERIZE WITH AMINE COMPOUNDS

11. TOXICOLOGICAL INFORMATION

- 1) INFORMATION ON THE ROUTES OF EXPOSURE: STIMULTATION / NOT CLASSIFIED
- 2) DELAY, ACUTE AND CHRONIC EFFECTS BY SHORT AND LONG-TERM EXPOSURE

- ACUTE TOXICITY : ORAL: NOT CLASSIFIED

SKIN: NOT CLASSIFIED

INHALATION: NOT CLASSIFIED



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- SKIN CORROSIVENESS/SENSITIVENESS: MOD/SEV=0.000(estimated value), NO STIMULATION
- SERIOUS EYE DAMAGE/SENSITIVENESS: MLD/SEV=1.000, STIMULATION
- RESPIRATORY SENSITIVENESS: NOT CLASSIFIED
- SKIN SENSITIVENESS: NOT CLASSIFIED
- MUTAGENICITY (GERM CELL MUTAGENICITY): NOT CLASSIFIED
- CARCINOGENICITY: NOT CLASSIFIED
- REPRODUCTIVE TOXICITY: NOT CLASSIFIED
- SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE): RESPIRATORY TRACK DAMAGE BY INHALATION
- SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE): NOT CLASSIFIED
- ASPIRATION HAZARD: NOT CLASSIFIED

12. ECOLOGICAL INFORMATION

- 1) POTENTIAL EFFECT ON ENVIRONMENT : NONE
- 2) POTENTIAL TO BIOACCUMULATE : NONE
- 3) AQUATIC TOXICITY : NONE

13. DISPOSAL CONSIDERATIONS

- 1) WASTE DISPOSAL METHODS :
DISPOSAL SHOULD BE IN ACCORDANCE WITH LOCAL, STATE OR NATIONAL LEGISLATION.
- 2) EMPTY CONTAINER :
EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE; FOLLOW MSDS AND LABEL
- 3) WARNINGS :
WARNINGS EVEN AFTER THEY HAVE BEEN EMPTIED.

14. TRANSPORTATION INFORMATION

- 1) UN NUMBER: NOT APPLICABLE TO THE CRITERIA FOR CLASSIFICATION
- 2) SHIPPING NAME: NOT APPLICABLE TO THE CRITERIA FOR CLASSIFICATION
- 3) TRANSPORT HAZARD CLASS: NOT APPLICABLE TO THE CRITERIA FOR CLASSIFICATION
- 4) PACKING GROUP: NOT APPLICATION TO THE CRITERIA FOR CLASSIFICATION



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- 5) MARINE POLLUTANT: NOT APPLICABLE TO THE CRITERIA FOR CLASSIFICATION
- 6) SPECIAL PRECAUTIONS AND CONDITIONS WHICH A USER NEEDS TO COMPLY WITH TRANSPORT

COLD STORAGE(5~10°C) ESSENTIAL.

BEWARE OF HEAT AND DIRECT SUNLIGHT.

- FIRE EMERGENCY PROCEDURE: F-A
- LEAK EMERGENCY PROCEDURE: S-I

15. REGULATORY INFORMATION

- 1) INDUSTRIAL SAFETY & HEALTH LAW : UNREGULATED
- 2) HARMFUL CHEMICAL MATERIAL CONTROL LAW : UNREGULATED
- 3) OTHERS : WASTE TREATMENT AND DISPOSAL LAW

16. OTHER INFORMATION

THIS MSDS IS MADE OUT IN ACCORDANCE WITH INDUSTRIAL SAFETY & HEALTH LAW ARTICLES 41. ALSO, IT IS BASED ON RESEARCH RESULTS OR LITERATURES CITED BY OUR COMPANY AND OTHER INSTITUTES.

ORIGIN : CHEMICAL PRODUCT DICTIONARY 10899