

MATERIAL SAFETY DATA SHEET
HUGHES ASSOCIATES
18116 MINNETONKA BLVD.
WAYZATA, MINNESOTA 55391

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24 HOUR EMERGENCY NUMBER
CHEMTREC 1 800 424-9300

ACUTE HEALTH 2	FIRE 1	REACTIVITY 0	HAZARD RATING= LEAST-1 HIGH-3	MODERATE-2 EXTREME-4
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PRODUCT NAME: EPOXY 330 A
Date Printed: JANUARY 2006

CHEMICAL NAME: EPOXY RESIN
CHEMICAL FAMILY: EPICHLOROHYDRIN-BISPHENOL A RESIN

1. INGREDIENTS: (% W/W, UNLESS OTHERWISE NOTED)

REACTION PRODUCTS OF EPICHLOROHYDRIN & BISPHENOL A
CAS# 025085-99-8 100%

THIS DOCUMENT IS PREPARED PURSUANT TO THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200). IN ADDITION, OTHER SUBSTANCES NOT "HAZARDOUS" PER THIS OSHA STANDARD MAY BE LISTED. WHERE PROPRIETARY INGREDIENT SHOWS, THE IDENTITY MAY BE MADE AVAILABLE AS PROVIDED IN THIS STANDARD.

2. PHYSICAL DATA:

BOILING POINT: NOT APPLICABLE
VAP. PRESS: NOT APPLICABLE
VAP. DENSITY: NOT APPLICABLE
SOL IN WATER: NONE
SP. GRAVITY: 1.18
APPEARANCE: WATER-WHITE TO YELLOW LIQUID TO SEMI-SOLID.
ODOR: FAINT EPOXY ODOR.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 485F, 252C
METHOD USED: ASTM D93, PMCC

FLAMMABLE LIMITS

LFL: NOT APPLICABLE
UFL: NOT APPLICABLE

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL

FIRE & EXPLOSION HAZARDS: NONE KNOWN.

FIRE-FIGHTING EQUIPMENT: WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

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4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) EXCESS HEATING OVER LONG PERIODS OF TIME DEGRADES THE RESIN.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) .BASE, ACID, AMINES AND OXIDISING MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS: THE BY-PRODUCTS EXPECTED IN INCOMPLETE PYROLYSIS OR COMBUSTION OF EPOXY RESINS ARE MAINLY PHENOLICS, CARBON MONOXIDE AND WATER. THE THERMAL DECOMPOSITION PRODUCTS OF EPOXY RESINS THEREFORE SHOULD BE TREATED AS POTENTIALLY HAZARDOUS SUBSTANCES, AND APPROPRIATE PRECAUTIONS SHOULD BE TAKEN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR BY ITSELF, BUT MASSES OF MORE THAN ONE POUND OF PRODUCT PLUS AN ALIPHATIC AMINE WILL CAUSE IRREVERSIBLE POLYMERIZATION WITH CONSIDERABLE HEAT BUILDUP.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: SOAK UP IN ABSORBENT MATERIAL SUCH AS SAND AND COLLECT IN SUITABLE CONTAINERS. RESIDUAL RESIN MAY BE REMOVED USING STEAM OR HOT SOAPY WATER. SOLVENTS ARE NOT RECOMMENDED FOR CLEANUP UNLESS THE RECOMMENDED EXPOSURE GUIDELINES AND SAFE HANDLING PRACTICES FOR THE SPECIFIC SOLVENT ARE FOLLOWED. CONSULT APPROPRIATE SOLVENT MSDS FOR HANDLING INFORMATION AND EXPOSURE GUIDELINES. KEEP SPARK PRODUCING EQUIPMENT AWAY. FOR LARGE SPILLS EVACUATE UPWIND OF SPILLS AND CONTAIN WITH DIKE.

DISPOSAL METHOD: BURN IN ADEQUATE INCINERATOR OR BURY IN AN APPROVED LANDFILL; IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

6. HEALTH HAZARD DATA:

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION. CORNEAL INJURY IS UNLIKELY.

SKIN CONTACT: REPEATED EXPOSURE MAY CAUSE SKIN IRRITATION. HAS CAUSED ALLERGIC SKIN REACTION IN HUMANS.

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. THE LD50 FOR SKIN ABSORPTION IN RABBITS IS 20,000 MG/KG.

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HUGHES ASSOCIATES. WAYZATA, MINNESOTA 55391 EMERGENCY PHONE:

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6. HEALTH HAZARD DATA: (Continued)

INGESTION : SINGLE DOSE ORAL TOXICITY IS LOW. THE ORAL LD50 FOR RATS IS >5000 MG/KG. NO HAZARDS ANTICIPATED FROM SWALLOWING SMALL AMOUNTS INCIDENTAL TO NORMAL HANDLING OPERATIONS.

INHALATION: VAPORS ARE UNLIKELY DUE TO PHYSICAL PROPERTIES.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

EXCEPT FOR SKIN SENSITIZATION, REPEATED EXPOSURES TO LOW MOLECULAR WEIGHT DIGLYCIDYL ETHER OF BISPHENOL A ARE NOT ANTICIPATED TO CAUSE ANY SIGNIFICANT ADVERSE EFFECTS.

CANCER INFORMATION: A POORLY CHARACTERIZED SAMPLE OF LOW MOLECULAR WEIGHT DIGLYCIDYL ETHER OF BISPHENOL A HAS BEEN REPORTED TO PRODUCE SKIN CANCER IN A HIGHLY SENSITIVE STRAIN OF MICE. HOWEVER, HIGH LEVELS OF IMPURITIES (INCLUDING A KNOWN ANIMAL SKIN CARCINOGEN) COMPROMISE THE VALIDITY OF THE FINDINGS. DIGLYCIDYL ETHER OF BISPHENOL A THAT IS REPRESENTATIVE OF CURRENT MANUFACTURING PROCESSES IS NOT BELIEVED TO BE A CANCER HAZARD TO HUMANS.

TERATOLOGY (BIRTH DEFECTS):

DID NOT CAUSE BIRTH DEFECTS OR OTHER ADVERSE EFFECTS ON THE FETUS WHEN PREGNANT RABBITS WERE EXPOSED BY SKIN CONTACT, THE MOST LIKELY ROUTE OF EXPOSURE.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):

RESULTS OF MUTAGENICITY TEST IN ANIMALS HAVE BEEN NEGATIVE. HAS BEEN SHOWN TO BE NEGATIVE IN SOME IN VITRO (TEST TUBE) MUTAGENICITY TESTS AND POSITIVE IN OTHERS.

7. FIRST AID:

EYES: IRRIGATE IMMEDIATELY WITH WATER FOR AT LEAST 5 MINUTES.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: NO ADVERSE EFFECTS ANTICIPATED BY THIS ROUTE OF EXPOSURE INCIDENTAL TO PROPER INDUSTRIAL HANDLING.

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7. FIRST AID: (Continued)

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.
NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED
ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINES: NONE ESTABLISHED.

VENTILATION: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST
CONDITIONS.

RESPIRATORY PROTECTION: NO RESPIRATORY PROTECTION SHOULD BE NEEDED.

SKIN PROTECTION: FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-
COVERING SHOULD BE NEEDED. USE IMPERVIOUS GLOVES WHEN PROLONGED OR
FREQUENTLY REPEATED CONTACT COULD OCCUR.EYE PROTECTION: USE SAFETY GLASSES. WHERE CONTACT WITH THIS MATERIAL IS
LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT MAY CAUSE
DISCOMFORT EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
PRACTICE GOOD CAUTION AND PERSONAL CLEANLINESS TO AVOID SKIN AND EYE
CONTACT. AVOID BREATHING VAPORS OF HEATED MATERIAL.

REGULATORY INFORMATION: (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS
REPRESENTED).

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE
AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED, IS GIVEN.
REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO
ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL,
STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE
PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND
REGULATIONS. SEE MSD SHEET FOR HEALTH AND SAFETY INFORMATION.

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD
CATEGORIES" PROMULGATED UNDER SECTION 311 & 312 OF THE SUPERFUND AMENDMENT &
REAUTHORIZATION ACT OF 1980 (SARA TITLE 111) & IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO
MEET THE FOLLOWING CATEGORIES:

AN IMMEDIATE HEALTH HAZARD.

CANADIAN REGULATIONS

The Workplace Hazardous Material Information System Classification for this product is: D2B

OTHER REGULATORY INFORMATION: NOT REGULATED.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED, IS MADE.
CONSULT HUGHES ASSOCIATES FOR FURTHER INFORMATION.