

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9202100154      DOC. DATE: 92/02/03      NOTARIZED: NO      DOCKET #  
FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania      05000387  
AUTH. NAME      AUTHOR AFFILIATION  
FIELDS, J.S.      Pennsylvania Power & Light Co.  
RECIP. NAME      RECIPIENT AFFILIATION  
LEHMAN, S.J.      Pennsylvania, Commonwealth of

SUBJECT: Advises that util planning to remove scale from condenser to help increase generating capacity by approx 2%. Descaling only conducted as needed. Betz product DE-1762 will be used.

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NOTES: LPDR 1 cy Transcripts.      05000387

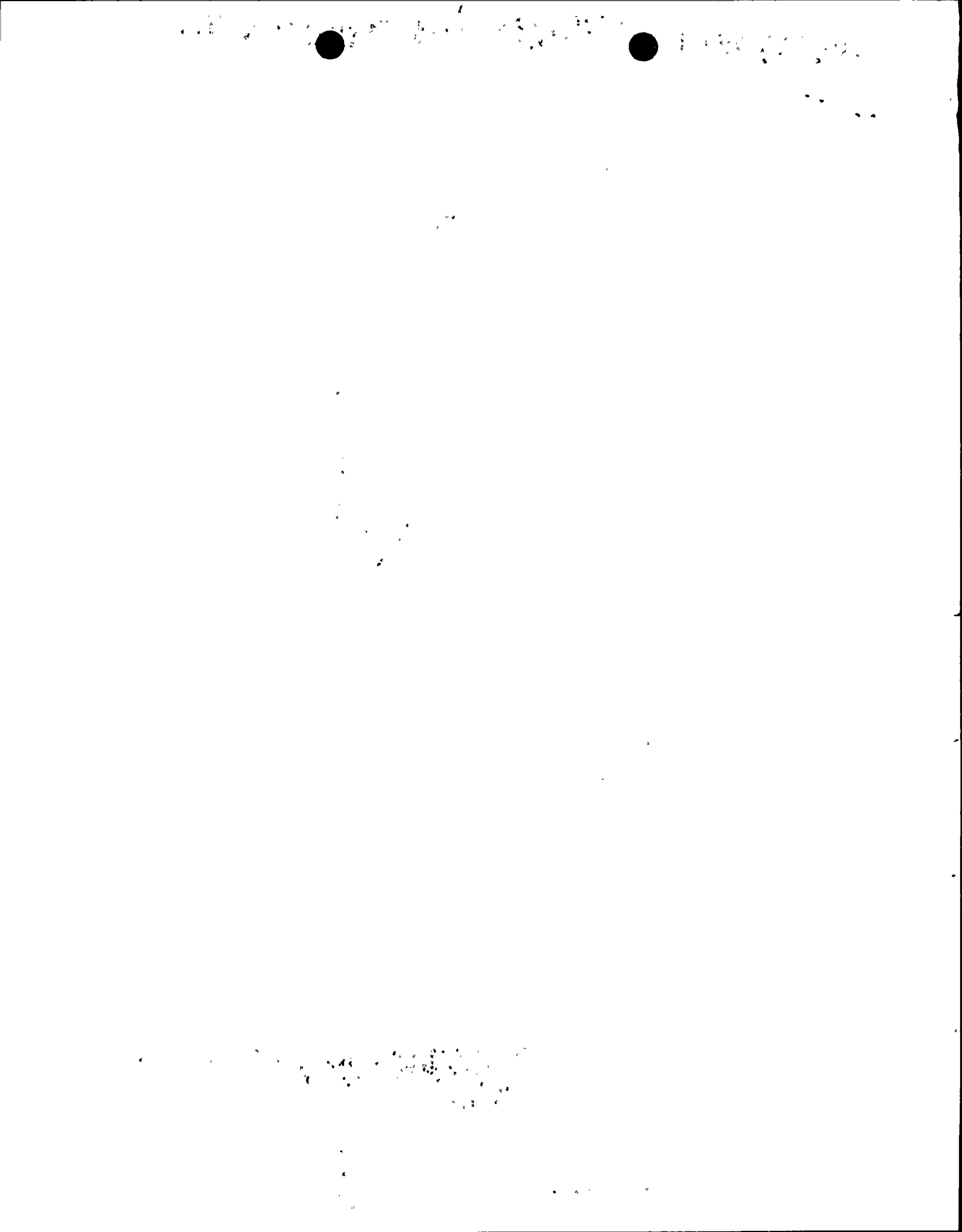
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INTERNAL:	ACRS	6 6	NRR/DET/ESGB 8D	1 1
	OC/LFMB	1 0	OGC/HDS2	1 0
	REG FILE <u>01</u>	1 1	RGN1 DRSS/RPB	1 1
EXTERNAL:	EG&G SIMPSON, F	2 2	NRC PDR	1 1
	NSIC	1 1		
NOTES:		2 2		

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,  
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*EX-1*





**Pennsylvania Power & Light Company**

Two North Ninth Street • Allentown, PA 18101-1179 • 215/774-5151

February 3, 1992

Mr. Stanley J. Lehman  
Water Quality Specialist Supervisor  
Bureau of Water Quality  
Pennsylvania Department of Environmental Resources  
90 East Union Street, 2nd Floor  
Wilkes-Barre, PA 18701-3296

SUSQUEHANNA STEAM ELECTRIC STATION  
DESCALING UNIT I CONDENSER USING  
DE - 1762  
CCN 741326 FILE R9-8A  
PLE-15205

Dear Mr. Lehman:

Pennsylvania Power and Light Company is planning on removing scale from the Susquehanna SES Unit I condenser. This activity will be similar to the Unit II condenser descaling activity last year. Its purpose is to help increase Unit I generating capacity by approximately 2%. Descaling is only conducted as needed.

A buildup of calcium carbonate scale occurred on the Unit I condenser during the first year of station operation prior to having a circulating water treatment program in place. Additional scale was deposited on the condenser during July 1991 when severe river conditions also caused unexpected increases in scaling.

A Betz product DE-1762 having the same active components as the Unit II descalant DE-1579 will be used. As a result of application refinements, 20% less active product will be used.

The treatment plan is to add 44,000 lbs. of DE-1762 to the circulating water system. This will result in a maximum product concentration of 700 mg/l. Sulfuric acid will be added through the existing acid injection system to maintain pH between 5.0 and 5.5 for four to six hours during the descaling period. The circulating water will then circulate over the Cooling Tower fill until the pH once again is greater than or equal to 6. Next, the Unit I blowdown valve will be opened allowing mixing of Unit I blowdown with Unit II blowdown. The maximum discharge concentration of DE-1762 will then be less than 500 mg/l. The estimated concentration of DE-1762 in the outfall after 21 hours will be less than or equal to 250 mg/l and after 42 hours, a concentration of less than or equal to 125 mg/l. Based on a review of aquatic toxicity data attached to the Material Safety Data Sheet, DE-1762 has a zero mortality to Daphnia Magna and Fathead minnows at these levels and should not have an adverse impact on aquatic organisms in the river.

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PDR ADOCK 05000387  
P PDR

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February 3, 1992

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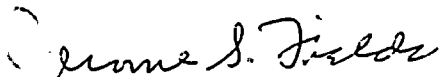
CCN 741326

PLE- 15205  
FILE R9-8A

We plan on sampling for pH and zinc to make certain we do not exceed our NPDES permit limits of 6 to 9 for pH and 1 mg/l for total zinc during this descaling activity. This sampling effort was also conducted during last year's Unit II descaling activity as required by the Pennsylvania Department of Environmental Resources.

This descaling activity will be conducted in March 1992 during the Unit I outage. If you have any questions, please contact Jim Wolfer of the Station Chemistry Staff at (717) 542-3981 or me at (215) 774-7889.

Sincerely,



Jerome S. Fields  
Sr. Environmental Scientist-Nuclear

jsf/lta095i(25)

Enclosure - DE-1762, Material Safety Data Sheet

cc: ~~NRC-Document-Control-Desk~~  
NRC Region I  
Mr. J. J. Raleigh, NRC Project Manager

BETZ LABORATORIES, INC.  
4636 SOMERTON ROAD, TREVOSE, PA. 19053  
BETZ MATERIAL SAFETY DATA SHEET  
EMERGENCY TELEPHONE (HEALTH/ACCIDENT) 800-877-1940

PRODUCT : BETZ DE-1762

(PAGE 1 OF 3)  
EFFECTIVE DATE 02-16-91  
PRINTED: 15-Oct-1991

REVISIONS TO SECTIONS: -;EDIT:APPENDIX

PRODUCT APPLICATION : CHEMICAL CLEANING COMPOUND.

-----SECTION 1-----HAZARDOUS INGREDIENTS-----

INFORMATION ON PHYSICAL HAZARDS, HEALTH HAZARDS, PEL'S AND TLV'S FOR SPECIFIC PRODUCT INGREDIENTS AS REQUIRED BY THE OSHA HAZARD COMMUNICATIONS STANDARD IS LISTED. REFER TO SECTION 4 (PAGE 2) FOR OUR ASSESSMENT OF THE POTENTIAL ACUTE AND CHRONIC HAZARDS OF THIS FORMULATION. THIS PRODUCT IS SUBJECT TO THE PENNSYLVANIA AND NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW LAW.

TRADE SECRET INGREDIENT(122);NUISANCE DUST;POSSIBLE EYE IRRITANT;  
PEL:NUISANCE DUST;TLV:NUISANCE DUST. TSRN 125438 - 5214P

TRADE SECRET INGREDIENT(E195);EYE IRRITANT;PEL:NONE;TLV:NONE. TSRN 125438  
- 5118P

TRADE SECRET INGREDIENT(222);OXIDIZER;CORROSIVE;PULMONARY DAMAGE;DENTAL  
EROSION;PEL/TLV:5MG/M3(10MG/M3-STEL). TSRN 125438 - 5238P

NONHAZARD INGREDIENTS: WATER(7732-18-5) ; TRADE SECRET(NK55) TSRN 125438 - 5628P

-----SECTION 2-----TYPICAL PHYSICAL DATA-----

PH: AS IS (APPROX.) 1.4 ODOR: ACID  
FL.PT.(DEG.F): >200 P-M(CC) SP.GR.(70F)OR DENSITY: 1.098  
VAPOR PRESSURE(mmHG): 18 VAPOR DENSITY(AIR=1): <1  
VISC cps70F: ND %SOLUBILITY(WATER): 100  
EVAP.RATE: <1 ETHER=1 APPEARANCE: YELLOW TO DARK BROWN  
PHYSICAL STATE: LIQUID FREEZE POINT(DEG.F): 26

-----SECTION 3-----REACTIVITY DATA-----

STABLE.MAY REACT WITH ORGANICS OR ALKALINE MATERIALS.DO NOT  
CONTAMINATE.BETZ TANK CLEAN-OUT CATEGORY 'D'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

PRODUCT: BETZ DE-1762

-----SECTION 4-----HEALTH HAZARD EFFECTS-----

ACUTE SKIN EFFECTS \*\*\* PRIMARY ROUTE OF EXPOSURE

SLIGHTLY IRRITATING TO THE SKIN

ACUTE EYE EFFECTS \*\*\*

SEVERE IRRITANT TO THE EYES

ACUTE RESPIRATORY EFFECTS \*\*\* PRIMARY ROUTE OF EXPOSURE

VAPORS, GASES, MISTS AND/OR AEROSOLS CAUSE IRRITATION TO UPPER  
RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE\*\*\*

PROLONGED OR REPEATED EXPOSURE MAY CAUSE LUNG DAMAGE AND/OR MAY CAUSE  
PRIMARY IRRITANT DERMATITIS.

MEDICAL CONDITIONS AGGRAVATED \*\*\*

NOT KNOWN

SYMPTOMS OF EXPOSURE \*\*\*

INHALATION MAY CAUSE IRRITATION OF RESPIRATORY TRACT; SKIN CONTACT MAY  
CAUSE ITCHING AND/OR REDNESS.

PRECAUTIONARY STATEMENT BASED ON TESTING RESULTS \*\*\*

MAY BE TOXIC IF ORALLY INGESTED OR INHALED.

-----SECTION 5-----FIRST AID INSTRUCTIONS-----

SKIN CONTACT\*\*\*

REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH A LARGE QUANTITY OF  
SOAP SOLUTION OR WATER FOR 15 MINUTES

EYE CONTACT\*\*\*

IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES. IMMEDIATELY CONTACT A  
PHYSICIAN FOR ADDITIONAL TREATMENT

INHALATION EXPOSURE\*\*\*

REMOVE VICTIM FROM CONTAMINATED AREA TO FRESH AIR. APPLY APPROPRIATE  
FIRST AID TREATMENT AS NECESSARY

INGESTION\*\*\*

DO NOT FEED ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSIVE VICTIM  
DO NOT INDUCE VOMITING. IMMEDIATELY CONTACT PHYSICIAN. DILUTE  
CONTENTS OF STOMACH USING 3-4 GLASSES MILK OR WATER

-----SECTION 6-----SPILL, DISPOSAL AND FIRE INSTRUCTIONS-----

SPILL INSTRUCTIONS\*\*\*

VENTILATE AREA, USE SPECIFIED PROTECTIVE EQUIPMENT. CONTAIN AND ABSORB  
ON ABSORBENT MATERIAL. PLACE IN WASTE DISPOSAL CONTAINER. THE WASTE  
CHARACTERISTICS OF THE ABSORBED MATERIAL, OR ANY CONTAMINATED SOIL,  
SHOULD BE DETERMINED IN ACCORDANCE WITH RCRA REGULATIONS.  
FLUSH AREA WITH WATER. WET AREA MAY BE SLIPPERY. SPREAD  
SAND/GRIT.

DISPOSAL INSTRUCTIONS\*\*\*

WATER CONTAMINATED WITH THIS PRODUCT MAY BE SENT TO A SANITARY  
SEWER TREATMENT FACILITY, IN ACCORDANCE WITH ANY LOCAL AGREEMENT, A  
PERMITTED WASTE TREATMENT FACILITY OR DISCHARGED UNDER A NPDES PERMIT  
PRODUCT (AS IS) -

INCINERATE OR BURY IN APPROVED LANDFILL

FIRE EXTINGUISHING INSTRUCTIONS\*\*\*

FIREFIGHTERS SHOULD WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING  
APPARATUS (FULL FACE-PIECE TYPE). PROPER FIRE EXTINGUISHING MEDIA:  
DRY CHEMICAL, CARBON DIOXIDE, FOAM OR WATER

PRODUCT: BETZ DE-1762

-----SECTION 7-----SPECIAL PROTECTIVE EQUIPMENT-----

USE PROTECTIVE EQUIPMENT IN ACCORDANCE WITH 29CFR SECTION 1910.132-134. USE RESPIRATORS WITHIN USE LIMITATIONS OR ELSE USE SUPPLIED AIR RESPIRATORS.

VENTILATION PROTECTION\*\*\*

ADEQUATE VENTILATION TO MAINTAIN AIR CONTAMINANTS BELOW EXPOSURE LIMITS  
RECOMMENDED RESPIRATORY PROTECTION\*\*\*

IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY,  
USE A RESPIRATOR WITH DUST/MIST FILTERS.

RECOMMENDED SKIN PROTECTION\*\*\*

RUBBER GLOVES

WASH OFF AFTER EACH USE.REPLACE AS NECESSARY

RECOMMENDED EYE PROTECTION\*\*\*

SPLASH.PROOF CHEMICAL GOGGLES

-----SECTION 8-----STORAGE AND HANDLING PRECAUTIONS-----

STORAGE INSTRUCTIONS\*\*\*

KEEP DRUMS & PAILS CLOSED WHEN NOT IN USE.

USE APPROVED CONTAINERS ONLY.STORE IN COOL,WELL-VENTED  
AREA.CONTACT WITH METALS MAY RELEASE FLAMMABLE HYDROGEN GAS.

HANDLING INSTRUCTIONS\*\*\*

CONTAINS AN OXIDIZER. AVOID ALL CONTACT WITH REDUCING AGENTS,  
OILS, GREASES, ORGANICS AND ACIDS.

\*\*\*\*\*  
THIS MSDS WAS WRITTEN TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD  
\*\*\*\*\*

APPENDIX: REGULATORY INFORMATION

THE CONTENT OF THIS APPENDIX REPRESENTS INFORMATION KNOWN TO BETZ ON THE  
EFFECTIVE DATE OF THIS MSDS. THIS INFORMATION IS BELIEVED TO BE ACCURATE.  
ANY CHANGES IN REGULATIONS WILL RESULT IN UPDATED VERSIONS OF THIS DOCUMENT.

...TSCA: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY

...REPORTABLE QUANTITY(RQ) FOR UNDILUTED PRODUCT:

5,466 GALLONS DUE TO (222);9,111 GALLONS DUE TO (122)

...RCRA: IF THIS PRODUCT IS DISCARDED AS A WASTE,THE RCRA HAZARDOUS WASTE  
IDENTIFICATION NUMBER IS: D002=CORROSIVE (PH,STEEL)

...DOT HAZARD/UN#/ER GUIDE# IS: CORROSIVE TO STEEL UN1760/#60

...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS: NONE

...SARA SECTION 302 CHEMICALS: TRADE SECRET--(222)INORGANIC ACID ;

...SARA SECTION 313 CHEMICALS: TRADE SECRET--(222)INORGANIC ACID , 2.0-5.0% ;

...SARA SECTION 312 HAZARD CLASS: DELAYED(CHRONIC) AND FIRE

...MICHIGAN CRITICAL MATERIALS: NONE

NFPA/HMIS : HEALTH - 2 ; FIRE - 1 ; REACTIVITY - 0 ; SPECIAL - CORR ; PE - B

DTR> EXIT

BETZ LABORATORIES, INC.  
4636 SOMERTON ROAD, TREVOSE, PA. 19047

12/13/91      PRODUCT: BETZ DE-1762

AQUATIC TOXICOLOGY

DAPHNIA MAGNA (DATA GENERATED ON SIMILAR PRODUCT)  
0% MORTALITY: 500    MG/L  
48 HOUR SCREEN

FATHEAD MINNOW (DATA GENERATED ON SIMILAR PRODUCT)  
0% MORTALITY: 750    MG/L  
96 HOUR SCREEN

AQUATIC TOXICOLOGY RESULTS ARE BASED ON ACTIVE CONCENTRATION  
TOXICITY OF A MORE DILUTE FORMULATION

12/13/91

MAMMALIAN TOXICOLOGY

ORAL LD50 -NO DATA

DERMAL LD50 -NO DATA

SKIN IRRITATION SCORE-NO DATA

EYE IRRITATION SCORE-NO DATA

INHALATION-NO DATA