



PECO ENERGY

PECO Energy Company  
2301 Market Street  
PO Box 8899  
Philadelphia, PA 19101-8899  
215 841 4000

May 11, 1994

Mr. Sohan Garg  
Bureau of Water Management  
Department of Environmental Resources  
Suite 6010, Lee Park  
555 North Lane  
Conshohocken, PA 19428

Dear Mr. Garg:

Subject: Limerick Generating Station NPDES Permit No. PA0051926

As per our recent meeting at Limerick Generating Station, enclosed is a letter requesting a temporary approval for the use of Betz products PECo 3, PEC10 and PEC12. The chemicals are replacements for the currently used PECo 4 and PECo 5 and will be used for corrosion and deposition control in the cooling water system. As was discussed at our meeting, the current formulations have performed well, however, the active components are not combined to provide flexibility in optimizing chemical usage. By using the same active components in a three product program, we can improve performance of the program, reduce costs, and reduce environmental discharges.

We are requesting that the approval be for a 6-month period. During this time, a competitive bid process for a replacement program will be completed. At that time, we will petition the Department for a permanent amendment to the permit.

Enclosed is additional information concerning usage rates, Material Safety Data Sheets, and Aquatic Toxicity Data. Since this program will result in significant benefits to both station operations and the environment, your immediate attention to this matter would be appreciated.

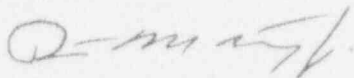
A copy of this letter (including any attachments or enclosures) is being sent to the U.S. Nuclear Regulatory Commission (USNRC) in accordance with the Limerick Generating Station, Units 1 and 2, Environmental Protection Plan, Section 3.2, which stipulates that USNRC shall receive a copy of any proposed changes to the NPDES permit at the same time that the permitting agency is notified.

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9405170251 940511  
PDR ADOCK 05000352  
PDR

Cool  
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If you have any questions or require additional information, please contact me at  
(215) 841-5177.

Sincerely,



Robert M. Matty, Jr.  
Engineer  
Environmental Affairs

Attachment

cc: U.S. Nuclear Regulatory Commission, Document Control Desk  
(Docket Nos. 50-352 and 50-353 & License Nos. NPF-39 and NPF-85)  
T. T. Martin, Administrator, USNRC, Region 1  
N. S. Perry, USNRC Senior Resident Inspector, LGS

LIMERICK GENERATING STATION  
PLANT DIVISION  
Chemistry Section

April 14, 1994

FROM: R. W. Boyce  
TO: G. M. Morley  
SUBJECT: LGS NPDES PERMIT PA0051926 REVISION

Currently, both LGS cooling towers are treated with two blended products, PECo4 and PECo5, for the control of cooling water system corrosion and deposition. While these products have performed well, it has become apparent that the active components are not combined to provide the most flexibility in optimizing chemical usage. As a result, at times the products must be either overfed or underfed, in an attempt to satisfy both treatment needs and discharge limitations.

While this situation has inherent plant corrosion and fouling concerns, it also does not provide the fullest capability to optimize chemical usage. After extensive evaluations with our water treatment vendor, we have concluded that the same active components could be added via a three product program. The flexibility of this three product program will enable us to better tailor our addition to daily conditions, thus improving performance, reducing our costs, and reducing environmental discharges. Since both the reissuance of our new NPDES permit and the rebidding of our cooling water treatment contract will not be completed for a number of months, we wish to implement this change as an interim measure, so that these benefits can be realized.

The three new products would be BETZ PECo 3, PEC10, and PEC12. A discussion on each follows, and a summary of the requested limits is attached. These limits were derived from the equivalent active ingredients in our currently approved discharges. Thus this request does not involve additional levels of chemical discharges.

- 1) PECo3--This product is a copper corrosion inhibitor, and is 50% sodium tolyltriazole (TTA). PECo5 is 5% TTA.

Since there is no environmentally approved test method for TTA, we request a gallon per day usage limit on PECo3. In the event that discharge limits are imposed, we request that they be one tenth of the current PECo5 limits, with the understanding that an unapproved method will be used.

- 2) PEC10--This product is a blend of orthophosphate and zinc, and is specifically for carbon steel corrosion control. Currently, PECo4 contains the zinc, and PECo5 the orthophosphate. The current configuration often prevents chemical treatment reductions due to the potential impact on

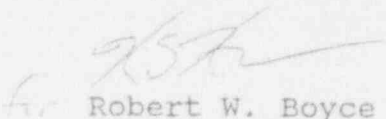
the levels of the other active components. For example, cooler weather, and/or increases in naturally occurring river phosphate levels, requires less corrosion inhibitor. We currently cannot respond to these situations, due to the need to maintain the fouling control agents at an acceptable level.

Our requested PEC10 limits are based on the equivalent orthophosphate levels in our current PECo5 usages and discharges. We intend to monitor zinc levels as the means of determining PEC10 concentration. Please note, however, that the limits correspond to a monthly average zinc concentration that is within the 0.7 ppm limit proposed in our pending NPDES permit revision.

- 3) PEC12--This product contains the organic polymer, HPS-1, currently added through PECo4, and a scale inhibitor, HEDP, currently added via PECo5, at 5% strength. Since HPS-1 is essentially non-toxic, the PEC12 toxicity is due to HEDP. Our requested limits were based on the equivalent amount of HEDP that is currently added via PECo5. Since both of these analytical methods are not highly accurate, we would prefer a usage rate only. However, in the event that discharge limits are imposed, the limits requested are based on equivalent amounts of HEDP in our current products.

In summary, these changes represent a less adverse environmental impact, improved quality, and improved cost performance. Furthermore, this plan was discussed on 3/31/94 with Sohan Garg, of the PADER, and Bob Matty, from your staff, during a meeting to review the forthcoming permit reissuance. Sohan was very receptive to the merits of this change, and indicated that approval could be granted relatively quickly, especially on a trial basis. Therefore, we request approval for a 6 month trial. It is our intention to have completed the competitive bidding process within that time period, and to have requested permanent approval for this program or a similar program provided by another vendor. A favorable response to this request is desired by 5/13/94.

Attached is the necessary product information, and our BETZ representative, Steve Jordan, is available to resolve any questions the PADER may have, as has been done in the past. If there are any questions, please contact Steve Dietch at extension 2711.

  
For Robert W. Boyce  
Plant Manager

SCD:vc

cc: J. L. Kantner  
K. S. Kemper  
C. G. Diehl

CURRENT PROGRAM

	MAXIMUM USAGE LIMIT	MONTHLY AVERAGE	AVERAGE DAILY	INSTANTANEOUS MAXIMUM
PECo4 (5% zinc) (13.5% HPS-1)	400 gpd	N/A	1.0 mg/l zinc	N/A
PECo5 (10% O-Phos) (5% HEDP) (5% TTA)	400 gpd	19.8 mg/l	29.7 mg/l	49.6 mg/l

NEW PROGRAM

	MAXIMUM USAGE LIMIT	MONTHLY AVERAGE	AVERAGE DAILY	INSTANTANEOUS MAXIMUM
PECo3 (50% TTA)	40 gpd	1.98 mg/l	2.97 mg/l	4.96 mg/l
PEC10 (22.5% O-Phos) (7.5% Zinc)	177 gpd	8.7 mg/l	N/A	N/A
PEC12 (21% HPS-1) (3.5% HEDP)	571 gpd	28.2 mg/l	42.4 mg/l	70.8 mg/l



BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT : POWERLINE PEC03

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

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

CORROSIVE TO SKIN

ACUTE EYE EFFECTS \*\*\*

CORROSIVE TO THE EYES

ACUTE RESPIRATORY EFFECTS \*\*\*

MISTS/AEROSOLS CAUSE IRRITATION TO UPPER RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE\*\*\*

PROLONGED OR REPEATED CONTACT MAY CAUSE TISSUE NECROSIS.

MEDICAL CONDITIONS AGGRAVATED \*\*\*

NOT KNOWN

SYMPTOMS OF EXPOSURE \*\*\*

CAUSES REDNESS OR ITCHING OF SKIN,POSSIBLY LEADING TO BURNS,DEPENDENT ON LENGTH OF EXPOSURE.

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

MAY BE TOXIC IF ORALLY INGESTED.

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

SKIN CONTACT \*\*\*

REMOVE CLOTHING.WASH AREA WITH LARGE AMOUNTS OF SOAP SOLUTION OR WATER FOR 15 MIN.IMMEDIATELY CONTACT PHYSICIAN

EYE CONTACT\*\*\*

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

INHALATION EXPOSURE\*\*\*

REMOVE VICTIM FROM CONTAMINATED AREA.APPLY NECESSARY FIRST AID TREATMENT.IMMEDIATELY CONTACT A PHYSICIAN.

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

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT : POWERLINE PEC03

-----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  
RECOMMENDED RESPIRATORY PROTECTION\*\*\*  
IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY,  
USE A RESPIRATOR WITH DUST/MIST FILTERS.

RECOMMENDED SKIN PROTECTION\*\*\*  
GAUNTLET-TYPE RUBBER GLOVES, CHEMICAL RESISTANT APRON  
WASH OFF AFTER EACH USE REPLACE AS NECESSARY.

RECOMMENDED EYE PROTECTION\*\*\*  
SPLASH PROOF CHEMICAL GOGGLES. FACE SHIELD

-----SECTION 8-----STORAGE AND HANDLING PRECAUTIONS-----  
STORAGE INSTRUCTIONS\*\*\*

KEEP CONTAINERS CLOSED WHEN NOT IN USE.  
STORE IN COOL VENTILATED LOCATION. STORE AWAY FROM OXIDIZERS

HANDLING INSTRUCTIONS\*\*\*  
ALKALINE CORROSIVE (SKIN/EYES). DO NOT MIX WITH ACIDIC MATERIAL.

\*\*\*\*\*  
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 IN THE TSCA INVENTORY  
...REPORTABLE QUANTITY (RQ) FOR UNDILUTED PRODUCT:  
NOT APPLICABLE

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

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

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

...SARA SECTION 302 CHEMICALS: NONE

...SARA SECTION 313 CHEMICALS: NONE

...SARA SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE); DELAYED (CHRONIC)

...MICHIGAN CRITICAL MATERIALS: NONE

NFPA/HMIS : HEALTH - 3; FIRE - 1; REACTIVITY - 0; SPECIAL - CORR; PE - D





BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT : POWERLINE PEC10

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

ACUTE SKIN EFFECTS \*\*\* PRIMARY ROUTE OF EXPOSURE  
MAY CAUSE MODERATE IRRITATION TO THE SKIN  
ACUTE EYE EFFECTS \*\*\*  
SEVERE IRRITANT TO THE EYES, POSSIBLY CORROSIVE  
ACUTE RESPIRATORY EFFECTS \*\*\*  
MISTS/AEROSOLS CAUSE IRRITATION TO UPPER RESPIRATORY TRACT  
CHRONIC EFFECTS OF OVEREXPOSURE\*\*\*  
PRODUCT OR PRODUCT COMPONENT MAY CAUSE REPRODUCTIVE TOXICITY AT MATERNAL  
TOXIC LEVELS(BASED ON ANIMAL TESTING).  
MEDICAL CONDITIONS AGGRAVATED \*\*\*  
NOT KNOWN  
SYMPTOMS OF EXPOSURE \*\*\*  
MAY CAUSE REDNESS OR ITCHING OF SKIN.

-----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

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT : POWERLINE PEC10

-----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 HIGH EFFICIENCY PARTICULATE CARTRIDGES

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 CONTAINERS CLOSED WHEN NOT IN USE.

PROTECT FROM FREEZING

HANDLING INSTRUCTIONS\*\*\*

ACIDIC. CORROSIVE (METAL). DO NOT MIX WITH ALKALINE MATERIAL.

\*\*\*\*\*  
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 IN THE TSCA INVENTORY  
...REPORTABLE QUANTITY (RQ) FOR UNDILUTED PRODUCT:  
1,852 GALLONS DUE TO PHOSPHORIC ACID; 417 GALLONS DUE TO ZINC SULFATE;  
...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/UN1805/#60  
...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS: NONE  
...SARA SECTION 302 CHEMICALS: NONE  
...SARA SECTION 313 CHEMICALS: PHOSPHORIC ACID (CAS# 7664-38-2), 21.0-30.0%  
ZINC SULFATE (CAS# 7733-02-0), 21.0-30.0%  
...SARA SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE); DELAYED (CHRONIC)  
...MICHIGAN CRITICAL MATERIALS: ZINC SULFATE (CAS# 7733-02-0)  
NFPA/HMIS : HEALTH - 2; FIRE - 0; REACTIVITY - 0; SPECIAL - CORR; PE - B

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

PRODUCT : POWERLINE PEC12

(PAGE 1 OF 3)  
EFFECTIVE DATE 04-03-92  
PRINTED: 6-Apr-1992

PRODUCT APPLICATION : WATER-BASED CORROSION INHIBITOR.

-----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.

PHOSPHONIC ACID, (1-HYDROXYETHYLIDINE) BIS- (HEDP) \*\*\*CAS#2809-21-4; EYE IRRITANT; PEL:NONE; TLV:NONE.

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

PH: AS IS	(APPROX.) 5.4	ODOR: MILD
FL.PT. (DEG.F): >200	P-M(CC)	SP.GR. (70F) OR DENSITY: 1.122
VAPOR PRESSURE (mmHG): 18		VAPOR DENSITY (AIR=1): <1
VISC cps70F: 22		%SOLUBILITY (WATER): 100
EVAP.RATE: ND	WATER=1	APPEARANCE: YELLOW
PHYSICAL STATE: LIQUID		FREEZE POINT (DEG.F): 28

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

STABLE. MAY REACT WITH STRONG OXIDIZERS. DO NOT CONTAMINATE. BETZ TANK CLEAN-OUT CATEGORY 'B'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT: POWERLINE PEC12

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

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

SLIGHTLY IRRITATING TO THE SKIN

ACUTE EYE EFFECTS \*\*\*

MODERATELY IRRITATING TO THE EYES

ACUTE RESPIRATORY EFFECTS \*\*\*

MISTS/AEROSOLS MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE\*\*\*

NO EVIDENCE OF POTENTIAL CHRONIC EFFECTS.

MEDICAL CONDITIONS AGGRAVATED \*\*\*

NOT KNOWN

SYMPTOMS OF EXPOSURE \*\*\*

MAY CAUSE REDNESS OR ITCHING OF SKIN.

-----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  
DILUTE CONTENTS OF STOMACH. INDUCE VOMITING BY ONE OF THE STANDARD METHODS. IMMEDIATELY CONTACT A PHYSICIAN

-----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

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT: POWERLINE PEC12

-----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

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.

DO NOT FREEZE.IF FROZEN,THAW AND MIX COMPLETELY PRIOR TO USE

HANDLING INSTRUCTIONS\*\*\*

NORMAL CHEMICAL HANDLING

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

APPENDIX: REGULATORY INFORMATION

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...TSCA: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY  
...REPORTABLE QUANTITY(RQ) FOR UNDILUTED PRODUCT:

NOT APPLICABLE

...RCRA: IF THIS PRODUCT IS DISCARDED AS A WASTE,THE RCRA HAZARDOUS WASTE IDENTIFICATION NUMBER IS: NOT APPLICABLE

...DOT HAZARD/UN#/ER GUIDE# IS: NOT APPLICABLE

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

...SARA SECTION 302 CHEMICALS: NONE

...SARA SECTION 313 CHEMICALS: NONE

...SARA SECTION 312 HAZARD CLASS: IMMEDIATE(ACUTE)

...MICHIGAN CRITICAL MATERIALS: NONE

NFPA/HMIS : HEALTH - 1 ; FIRE - 1 ; REACTIVITY - 0 ; SPECIAL - NONE ; PE - B

BETZ LABORATORIES  
4636 SOMERTON ROAD , TREVOSE, PA 19053

PRODUCT: POWERLINE PEC03

AQUATIC TOXICOLOGY

Daphnia magna

48 Hour Static Acute Bioassay  
LC50: 311.2 MG/L  
No effect level: 210 MG/L

Bluegill Sunfish

96 Hour Static Acute Bioassay  
LC50: 109.3 MG/L  
No effect level: 42 MG/L

MAMMALIAN TOXICOLOGY

Oral LD50 RAT: >1,400 MG/KG  
NOTE: ESTIMATED VALUE

Dermal LD50 RABBIT: >4,500 MG/KG  
NOTE: ESTIMATED VALUE





BETZ LABORATORIES  
4636 SOMERTON ROAD , TREVOSE, PA 19053

PRODUCT: POWERLINE PEC10

AQUATIC TOXICOLOGY

Rainbow Trout

96 Hour Static Acute Bioassay  
LC50: 21.3 MG/L  
No effect level: 15.5 MG/L

Daphnia magna

48 Hour Static Acute Bioassay  
LC50: 3.8 MG/L  
No effect level: <3.2 MG/L

MAMMALIAN TOXICOLOGY

NO DATA AVAILABLE