

T. S. Appendix B 1.4.2.2.b



**PECO NUCLEAR**

A UNIT OF PECO ENERGY

PECO Energy Company  
Nuclear Group Headquarters  
965 Chesterbrook Boulevard  
Wayne, PA 19087-5631

March 14, 1996

Docket Nos. 50-277  
50-278

License Nos. DPR-44  
DPR-56

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

SUBJECT: Peach Bottom Atomic Power Station, Units 2 and 3  
Proposed Changes to National Pollutant Discharge Elimination  
System Permit No. PA 0009733

Dear Sir:

This letter is being submitted in accordance with Technical Specifications (TS) Section 1.4.2.2.b, Appendix B, of the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 Facility Operating Licenses. TS Appendix B, Section 1.4.2.2.b stipulates that the NRC shall be provided with a copy of any changes or additions to permits and certificates required by Federal, State, local and regional authorities for the protection of the environment.

Accordingly, attached is a copy of proposed changes to the PBAPS National Pollutant Discharge Elimination System permit No. PA 0009733.

If you have questions concerning this submittal please contact us.

Sincerely,

G.A. Hunger, Jr.,  
Director - Licensing

Attachment

cc: T. T. Martin, Administrator, USNRC, Region I  
W. L. Schmidt, Senior Resident Inspector, USNRC, PBAPS

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**PECO ENERGY**

PECO Energy Company  
2301 Market Street  
PO Box 8699  
Philadelphia, PA 19101-8699  
215 841 4000

November 1, 1995

Mr. Paul Yarnell  
Department of Environmental Protection  
Bureau of Water Management  
One Ararat Boulevard  
Harrisburg, PA 17110

Dear Mr. Yarnell:

Subject: Peach Bottom Atomic Power Station  
NPDES Permit No. PA 0009733

Pursuant to Chapter 92.7, "Reporting of New or Increased Discharges," we are requesting the subject permit be amended to allow the use of the chemical additives methyl-benzotriazole, glutaraldehyde, and isothiazolin in the closed water cooling water systems at Peach Bottom Atomic Power Station. We are requesting that the additives be approved in the generic form to allow the station flexibility in choosing suppliers. A generic approval will allow the station to control costs by purchasing the additives from the lowest cost supplier.

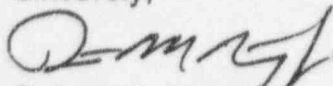
Methyl-benzotriazole (Tolytriazole) is a copper corrosion inhibitor. A concentration of 1 to 3 ppm of the additive will be maintained in the system. Glutaraldehyde and isothiazolin are biocides. If the biological activity in the system exceeds site Chemistry's specifications, a shock dose of 220 ppm of glutaraldehyde (or 70 ppm isothiazolin) will be used. A maintenance dose of 50 to 100 ppm glutaraldehyde (or 20 ppm isothiazolin) will be used as necessary to control biological activity.

The closed water cooling systems are not designed to release to the environment. Releases to the discharge canal would normally occur during a maintenance outage on the emergency diesel generators (Note: only one diesel can be out for an outage at any one time). Once per year, each diesel generator's cooling water jacket is drained for maintenance. The volume of the system is 400 gallons. If the system was released in 1 hour (6.7 gpm), and the only dilution flow is one service pump (20,000 gpm), the highest concentration at outfall 001 would be 0.001 ppm methyl-benzotriazole, 0.067 ppm glutaraldehyde, and/or 0.023 ppm isothiazolin. Analysis for methyl-benzotriazole and glutaraldehyde additives will be performed using a Hach test kit. A Betz test method will be used for isothiazolin.

Enclosed are the Material Data Safety Sheets and Aquatic Toxicity Data for the additives. Note that this information was provided by Betz Laboratories, Inc.

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

bcc:	G. D. Edwards	w/o	attachment
	D. J. Cesareo	"	"
	T. N. Mitchell	"	"
	J. M. Armstrong	"	"
	W. F. McElroy	"	"
	G. A. Hunger	"	"
	E. J. Cullen	"	"
	M. C. Kray	w/	attachment
	A. J. Wasong	"	"
	A. D. Odell	"	"
	T. J. Siglin	"	"
	CCD	"	"

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

(PAGE 1 OF 3)

PRODUCT : POWERLINE INHIBITOR-PEC03      EFFECTIVE DATE:06-07-95

PRINTED: 06-07-95

REVISIONS TO SECTIONS: 1 EDIT:PROD.APP.

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.

• BENZOTRIAZOLE,METHYL,SODIUM SALT (SODIUM TOLYLTRIAZOLE),(TTA)\*\*\*CAS# 64665-57-2; CORROSIVE TO EYES AND SKIN;TOXIC(ORAL INGESTION); PEL:NOT DETERMINED;TLV:NOT DETERMINED

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

PH: AS IS(APPROX.) 13.0      ODOR: MILD  
FL.PT.(DEG.F):> 200 SETA(CC)      SP.GR.(70F): 1.192  
VAPOR PRESSURE(mmHG): ~ 18.0      VAPOR DENSITY(AIR=1): ND  
VISC cps70F: 78      %SOLUBILITY(WATER): 100.0  
EVAP RATE: < 1.00(ETHER=1)      APPEARANCE: AMBER  
PHYSICAL STATE:LIQUID      FREEZE POINT(DEG.F): -25.00

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

STABLE.MAY REACT WITH ACIDS.DO NOT CONTAMINATE. BETZ TANK CLEAN-OUT CATEGORY 'C'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT: POWERLINE INHIBITOR-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 INHIBITOR-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:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...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:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 302 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 313 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

...MICHIGAN CRITICAL MATERIALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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



BETZ LABORATORIES, INC.  
4636 SOMERTON ROAD, TREVOSE, PA 19053

PRODUCT: POWERLINE PEC03

June 27, 1995

#### AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay

LC50: 311.2 mg/L  
No Effect Level: 210

Bluegill Sunfish 96 Hour Static Acute Bioassay

LC50: 109.3 mg/L  
No Effect Level: 42

#### BIODEGRADATION

COD (mg/gm): 790  
TOC (mg/gm): 259  
BOD-5 (mg/gm): 4  
BOD-28 (mg/gm): 22

Closed Bottle Test  
% Degradation in 28 days: 6  
Zahn-Wellens Test  
% Degradation in 28 days: 9

#### MAMMALIAN TOXICOLOGY

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

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

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

(PAGE 1 OF 3)

PRODUCT: BIO-TROL 107 EFFECTIVE DATE: 02-13-95

PRINTED: 02-13-95

REVISIONS TO SECTIONS: :EDIT:PRODAPP

PRODUCT APPLICATION: WATER-BASED MICROBIAL CONTROL AGENT.

-----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.

GLUTARALDEHYDE\*\*\*CAS# 111-30-8; SKIN, EYE AND RESPIRATORY  
IRRITANT, POTENTIAL SKIN SENSITIZER; ABSORBED; TOXIC (ORAL INGESTION);  
PEL: 0.2PPM-C; TLV: 0.2PPM-C

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

PH: AS IS (APPROX.) 3.5 ODOR: SLIGHT ACID  
FL. PT. (DEG. F): > 200 P-M (CC) SP. GR. (70F): 1.120  
VAPOR PRESSURE (mmHG): 14.7 VAPOR DENSITY (AIR=1): > 1.00  
VISC cps 70F: 28 % SOLUBILITY (WATER): 100.0  
EVAP RATE: < 1.00 (ETHER=1) APPEARANCE: COLORLESS  
PHYSICAL STATE: LIQUID FREEZE POINT (DEG. F): 1.00

-----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 : BIO-TROL 107

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

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

CORROSIVE TO SKIN.ABSORBED BY SKIN.POTENTIAL SKIN SENSITIZER.

ACUTE EYE EFFECTS \*\*\*

CORROSIVE 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 CONTACT MAY CAUSE TISSUE NECROSIS AND/OR DERMATITIS.

MEDICAL CONDITIONS AGGRAVATED \*\*\*

NOT KNOWN

SYMPTOMS OF EXPOSURE \*\*\*

VAPORS MAY CAUSE IRRITATION OF EYES AND/OR RESPIRATORY TRACT LEADING TO DIZZINESS,DROWSINESS,HEADACHE AND NAUSEA; SKIN CONTACT MAY CAUSE MODERATE IRRITATION 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 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.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 ABSORBANT MATERIAL.PLACE IN WASTE DISPOSAL CONTAINER.THE CONTAMINATED ABSORBANT SHOULD BE CONSIDERED A PESTICIDE AND DISPOSED OF IN AN APPROVED PESTICIDE LANDFILL.SEE PRODUCT LABEL STORAGE AND DISPOSAL INSTRUCTIONS.

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: BIO-TROL 107

-----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 RESPIRATOR WITH ORGANIC VAPOR, HIGH EFFICIENCY PARTICULATE CARTRIDGES  
RECOMMENDED SKIN PROTECTION\*\*\*

GAUNTLET-TYPE RUBBER GLOVES, RUBBER BOOTS & 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\*\*\*

ACIDIC. CORROSIVE (SKIN/EYES). 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: THIS IS AN EPA REGISTERED BIOCIDES AND IS EXEMPT FROM TSCA INVENTORY REQUIREMENTS

...FIFRA(40CFR): EPA REG. NO.: 10352-22-3876

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

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

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

...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 302 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 313 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

...MICHIGAN CRITICAL MATERIALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

BETZ LABORATORIES, INC.  
4636 SOMERTON ROAD, TREVOSE, PA 19053

PRODUCT: BIO-TROL 107

June 27, 1995

#### AQUATIC TOXICOLOGY

##### Rainbow Trout 96 Hour Static Renewal Bioassay

LC50: 24 mg/L  
No Effect Level: 17

##### Fathead Minnow 96 Hour Static Acute Bioassay

LC50: 13 mg/L  
No Effect Level: 8.6

##### Daphnia magna 48 Hour Static Renewal Bioassay

LC50: 23.6 mg/L  
No Effect Level: 17

##### Bluegill Sunfish 96 Hour Static Acute Bioassay

LC50: 24.8 mg/L  
No Effect Level: 11

##### Eastern Oyster Larvae 96 Hour Flow-Thru Bioassay

EC50 Shell Deposition: 1.73 mg/L  
No Effect Level: .35

##### Sheepshead Minnow 96 Hour Flow-Thru Bioassay

LC50: 71 mg/L  
No Effect Level: 53

##### Mysid Shrimp 96 Hour Flow-Thru Bioassay

LC50: 15.7 mg/L  
No Effect Level: 1.7

#### BIODEGRADATION

COD (mg/gm): 981  
TOC (mg/gm): 315  
BOD-5 (mg/gm): 0  
BOD-28 (mg/gm): 500

##### Closed Bottle Test

% Degradation in 28 days: 92

##### Zahn-Wellens Test

% Degradation in 28 days: 10

## MAMMALIAN TOXICOLOGY

Oral LD50 RAT: 298 MG/KG

Note - ESTIMATED VALUE

Dermal LD50 RABBIT: >5,000 MG/KG

Note - ESTIMATED VALUE

**PRODUCT: SLIMICIDE C-68**

EFFECTIVE DATE:10-14-94

REVISIONS TO SECTIONS: 1,7;EDIT:8

PRODUCT APPLICATION:WATER-BASED MICROBIAL CONTROL AGENT.**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.

MAGNESIUM NITRATE\*\*\*CAS# 10377-60-3;OXIDIZER;EYE AND SKIN IRRITANT;  
PEL:NOT DETERMINED;TLV:NOT DETERMINED

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE\*\*\*CAS# 26172-55-4; CORROSIVE;SKIN  
SENSITIZER;TOXIC(ORAL&DERMAL EXP.); PEL:NOT DETERMINED;TLV:NOT DETERMINED;  
NOTE-(MFG.SUGG.EXP.LIMIT:0.1MG/M3 TWA;0.3MG/M3 STEL TOTAL ISOTHIAZOLINE).

NONHAZARD INGREDIENTS: WATER(CAS# 7732-18-5)**2) TYPICAL PHYSICAL DATA**

PH: AS IS (APPROX.)	3.5	ODOR: AROMATIC
FL.PT.(DEG.F):> 200 P-M(CC)		SP.GR.(70F): 1.033
VAPOR PRESSURE(mmHG):	20.0	VAPOR DENSITY(AIR=1): < 1.00
VISC cps70F:	3	%SOLUBILITY(WATER): 100.0
EVAP RATE: < 1.00(ETHER=1)		APPEARANCE: LIGHT YELLOW TO GREEN
PHYSICAL STATE:LIQUID		FREEZE POINT(DEG.F): 28.00

**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.

#### 4) HEALTH HAZARD EFFECTS

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

CORROSIVE TO SKIN;SKIN SENSITIZER WITH DELAYED ONSET OF SYMPTOMS.

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 AND SKIN SENSITIZATION.

MEDICAL CONDITIONS AGGRAVATED \*\*\*

NOT KNOWN

SYMPTOMS OF EXPOSURE \*\*\*

DIRECT CONTACT WITH SKIN WILL CAUSE SEVERE DELAYED SKIN REACTIONS OR BURNS IF NOT WASHED OFF IMMEDIATELY-FOLLOW FIRST AID INSTRUCTIONS.

#### 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

#### 6) SPILL,DISPOSAL AND FIRE INSTRUCTIONS

SPILL INSTRUCTIONS\*\*\*

VENTILATE AREA,USE SPECIFIED PROTECTIVE EQUIPMENT.CONTAIN AND ABSORB ON ABSORBANT MATERIAL.PLACE IN WASTE DISPOSAL CONTAINER.THE CONTAMINATED ABSORBANT SHOULD BE CONSIDERED A PESTICIDE AND DISPOSED OF IN AN APPROVED PESTICIDE LANDFILL.SEE PRODUCT LABEL STORAGE AND DISPOSAL INSTRUCTIONS.

DECONTAMINATE WITH 10% SOD.BISULFITE.USE 15 PARTS TO 1 PART PRODUCT

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)-

DISPOSE OF IN APPROVED PESTICIDE FACILITY OR ACCORDING TO LABEL INSTRUCTIONS

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



## 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 RESPIRATOR WITH ORGANIC VAPOR, ACID GASSES & DUST/MIST CARTRIDGES

RECOMMENDED SKIN PROTECTION\*\*\*

GAUNTLET-TYPE BUTYL GLOVES, CHEMICAL RESISTANT APRON.

WASH OFF AFTER EACH USE REPLACE AS NECESSARY.

RECOMMENDED EYE PROTECTION\*\*\*

SPLASH PROOF CHEMICAL GOGGLES. FACE SHIELD

## 8) STORAGE AND HANDLING PRECAUTIONS

STORAGE INSTRUCTIONS\*\*\*

KEEP CONTAINERS CLOSED WHEN NOT IN USE.

STORE BETWEEN 20-100F FOR NO MORE THAN 6 MONTHS. STORE UPRIGHT IN ORIGINAL VENTED CONTAINERS. PRODUCT EVOLVES CO2 SLOWLY. STORE SAMPLES IN PLASTIC BOTTLES DUE TO PRESSURE BUILD-UP.

HANDLING INSTRUCTIONS\*\*\*

CONTAINS AN OXIDIZER. AVOID ALL CONTACT WITH REDUCING AGENTS, OILS, GREASES, ORGANICS AND ACIDS. CORROSIVE TO SKIN AND/OR EYES.

\*\*\*\*\*  
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: THIS IS AN EPA REGISTERED BIOCIDES AND IS EXEMPT FROM TSCA INVENTORY REQUIREMENTS

...FIFRA(40CFR):EPA REG.NO.: 3876- 143

...USDA FEDERALLY INSPECTED MEAT AND POULTRY PLANTS-AUTHORIZED CAT.: SEC.G7

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

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

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

...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 302 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

...SARA SECTION 313 CHEMICALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

...MICHIGAN CRITICAL MATERIALS:

NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS

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

BETZ LABORATORIES, INC.  
4636 SOMERTON ROAD, TREVOSE, PA 19053

PRODUCT: SLIMICIDE C-68

08/25/1995

#### AQUATIC TOXICOLOGY

Rainbow Trout 96 Hour Static Acute Bioassay

LC50: 8.7 mg/L  
No Effect Level: 6.5

Daphnia magna 48 Hour Flow-Thru Bioassay

Mortality was observed in lowest concentration tested.  
Test concentrations were analytically verified.

LC50: 2.9 mg/L  
10% Mortality: .6

Bluegill Sunfish 96 Hour Static Acute Bioassay

LC50: 12.1 mg/L  
No Effect Level: 6.5

Fathead Minnow 96 Hour Flow-Thru Bioassay

Test concentrations were analytically verified.

LC50: 6.6 mg/L  
No Effect Level: 2.5

#### BIODEGRADATION

COD (mg/gm): 14 Calculated  
TOC (mg/gm): 9 Calculated  
BOD-5 (mg/gm): 0 Calculated  
BOD-28 (mg/gm): 0 Calculated

Closed Bottle Test

% Degradation in 28 days: 0 Calculated

Zahn-Wellens Test

% Degradation in 28 days: 0 Calculated

#### MAMMALIAN TOXICOLOGY

Oral LD50 RAT: >5,000 MG/KG

Skin Sensitization HUMAN: POSITIVE

Non-Ames Mutagenicity : NEGATIVE

Teratology : NEGATIVE

Dermal LD50 RABBIT: >2,000 MG/KG  
Note - Estimated value