CENTERIOR ENERGY
Power Generation Group

Perry Nuclear Power Plant
10 Center Road
Perry, Ohio 44081

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Lew W. Myers
Vice President

August 13, 1997
PY-CEI/OEPA-0275L

Ohio Environmental Protection Agency
Division of Surface Water
Water Resources Management Section
1800 WaterMark Dr.
Columbus, OH 43216-1049

Attn: Mr. Eric Nygaard

Perry Nuclear Power Plant
NPDES Permit No. 3IB00016*ED

Dear Mr. Nygaard:

The Perry Nuclear Power Plant has enlisted Betz Industrial to perform a molluscicide treatment on the plant service water system, utilizing Clam-Trol CT-2. The tentative schedule for this treatment is the week of August 25, lake conditions permitting. Product information and the required environmental data is attached.

Treatment for mollusks has been done annually at the Perry Nuclear Power Plant for several years using various products, however this will be the first use of Clam-trol CT-2.

If you have questions or require additional information to evaluate the use of this product, please call Donna Tizzano at (216) 280-5514.

Very Truly Yours,

Lew W. Myers

DGT:jmn
Attachments

C001
1/1

cc: NRC Document Control Desk (Docket Number 50-440)
NRC Project Manager
NRC Resident Inspectors Office
NRC Region III

PRODUCT INFORMATION FOR THE OHIO EPA

1. Additive Name-Clam-Trol CT-2
   a. MSDS (attachment 2)
   b. Constituents listed in MSDS section 1.
   c. alkyl dimethylbenzyl ammonium chloride
      ethanol
   d. For use as a molluscicide
   e. EPA registration number; 3876-149

2. Concentration
   a. To be fed at concentrations ranging from 3 to 6 mg/L.
   b. Annual treatment, duration of application from 6 to 24 hours depending on Lake Erie temperature.
   c. To be mechanically fed into system with ongoing sample/analysis for duration of treatment.

3. The expected concentration in the effluent will be maintained below 0.04 mg/L, the LC_{50} for daphnia Magna, the most sensitive aquatic organism.
   a. The minimum quantitation limit for Clam-Trol CT-2 in fresh water is 0.05 mg/L. This value was determined from a statistical evaluation of the performance of multiple operators working with field samples. The analytical test method is analogous to the ASTM "methylene blue active substances" test for anionic surfactants, except for that an anionically charged indicator dye (methyl orange) is used in place of the methylene blue, since the active ingredient is a cationic surfactant. The test method measures only active ingredient in the product.
   b. The active ingredient is cationically charged and absorbed onto naturally occurring suspended solids, algae and surfaces. Typical product demand from natural waters is approximately 0.3 mg/L. Where necessary, the natural demand can be augmented by the addition of high surface area anionically charged clays.
      1. BetzDearborn DTG, a swelling clay mineral of the bentonite family is used to absorb the active ingredient where natural demand is insufficient.
      2. The active ingredient is retained on the clay by a combination of physical adsorption (hydrophobic fatty acid surfactant tail to solid particle), charge attraction (cation to anion), and intercalation of the active ingredient between the clay platelets.
      3. Attachment 3 provides the acute and chronic toxicity associated with both the DTG clay product and mixtures of the DTG with the active ingredient. In

these studies, the product is referred to as Clam-Trol CT-4. The active ingredient in Clam-Trol CT-4 is identified to Clam-Trol CT-2. However, the CT-4 active concentration is 10% whereas the CT-2 is 50% active (5 times as concentrated). Several additional studies have been performed over the years to confirm that the product is inactivated "instantaneously" (mixed in-line and added directly to a daphnid aquaria), and that the actives do not desorb readily with shifts in pH, ammonia, or calcium concentrations.

4. The detoxifying agent is a bentonite clay, a natural clay mineral which is not toxic and will simply contribute ever so slightly to the sediments.

4. Average flow rate at outfall and outfall number
   a. The average flowrate at the outfall is 93.60 MGD.
   b. The point representative of discharge prior to tunnel entry is permitted as 3IB00016004.

5. Lake Erie receives the discharge from the plant.

6. Toxicity and environmental information.
   a. For Clam-Trol CT-2
      48 hour - *Daphnia Magnia*, LC_{50} = 0.04 mg/L
      96 hour - Rainbow Trout, LC_{50} = 2.0 mg/L
   b. The log of the octanol/water partition coefficient for Clam-Trol CT-2 is reported as a range of 2.9-4.9. An accurate value is difficult to achieve because the product is a surfactant which tends to emulsify the octanol water mixture, and because the product is a mixture of C_{12}, C_{14}, and C_{16} alykl chains. The ADBAC joint venture group sponsored a study by Springborne Life Sciences, Inc. to satisfy USEPA registration guideline 165-4 for a definitive bioaccumulation study in fish. The 8 week study used bluegill sunfish as the test organism. They reported bioaccumulation factors of 160x and 33x in non-edible and edible tissue, respectively. The bioaccumulation factors were considered low, indicating that it would not tend to bioaccumulation. By contrast, DDT and PCB's are reported to have bioaccumulation values of 1,585,000 and 631,000 using the same test protocol. Another study sponsored by Rohm and Haas indicated that the peak concentration in fish tissue was reached after 2 weeks and the biological half life in fish tissue was a relatively short 7 days.

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

PRODUCT : CLAM-TROL CT-2

EFFECTIVE DATE:03-18
PRINTED: 03-18-94

PRODUCT APPLICATION:WATER-BASED MICROBIAL CONTROL AGENT.

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

INFORMATION ON PHYSICAL HAZARDS,HEALTH HAZARDS, PEL'S AND TLV'S FOR SPECIF PRODUCT INGREDIENTS AS REQUIRED BY THE OSHA HAZARD COMMUNICATIONS STANDARD LISTED. REFER TO SECTION 4 (PAGE 2) FOR OUR ASSESSMENT OF THE POTENTIAL AC AND CHRONIC HAZARDS OF THIS FORMULATION.

(C12-16)ALKYL DIMETHYL BENZYL AMMONIUM CHLORIDE***CAS# 68424-85-1; CORROSIVE(SKIN AND EYES); PEL:NOT DETERMINED;TLV:NOT DETERMINED

ETHYL ALCOHOL(ETHANOL)***CAS# 64-17-5;FLAMMABLE;EYE IRRITANT;MAY CAUSE DEFATTING DERMATITIS,DIZZINESS AND HEADACHE;PEL:1000PPM;TLV:1000PPM

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

PH: AS IS(APPROX.) 8.9	ODOR: MILD
FL.PT.(DEG.F): 130 P-M(CC)	SP.GR.(70F): 0.965
VAPOR PRESSURE(mmHG): 44.0	VAPOR DENSITY(AIR=1): < 1.00
VISC cps70F: 73	%SOLUBILITY(WATER): 100.0
EVAP RATE: > 1.00(ETHER=1)	APPEARANCE: COLORLESS TO YELLOW
PHYSICAL STATE:LIQUID	FREEZE POINT(DEG.F): -7.00

-----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 : CLAM-TROL CT-2

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

.CUTE SKIN EFFECTS *** PRIMARY ROUTE OF EXPOSURE
SEVERE IRRITANT TO THE SKIN.POTENTIAL SKIN SENSITIZER

ACUTE EYE EFFECTS ***
CORROSIVE TO THE EYES

ACUTE RESPIRATORY EFFECTS ***
VAPORS,GASES,MISTS AND/OR AEROSOLS MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.

CHRONIC EFFECTS OF OVER[illegible]***
REPEATED SKIN CONTACT [illegible]USE SENSITIZATION.

MEDICAL CONDITIONS AGGRAVATED ***
NOT KNOWN

SYMPTOMS OF EXPOSURE ***
INHALATION OF VAPORS/MISTS/AEROSOLS MAY CAUSE EYE,NOSE,THROAT AND LUNG IRRITATION;SKIN CONTACT MAY CAUSE SEVERE IRRITATION OR BURNS.

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 F 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 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.
REMOVE IGNITION SOURCES.FLUSH AREA WITH WATER.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)-
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

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT : CLAM-TROL CT-2

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

JSE PROTECTIVE EQUIPMENT IN ACCORDANCE WITH 29CFR SECTION 1910.132-134.US
RESPIRATORS WITHIN USE LIMITATIONS OR ELSE USE SUPPLIED AIR RESPIRATORS.
VENTILATION PROTECTION***
ADEQUATE VENTILATION TO MAINTAIN AIR CONTAMINANTS BELOW EXPOSURE LIMIT
RECOMMENDED RESPIRATORY PROTECTION***
IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY,
USE A RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE & DUST/MIST PREFILTER
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.
KEEP AWAY FROM FLAMES OR SPARKS. BOND CONTAINERS DURING FILLING OR DISCHARGE WHEN PERFORMED AT TEMPERATURES AT OR ABOVE THE PRODUCT FLASH POINT.
HANDLING INSTRUCTIONS***
COMBUSTIBLE. DO NOT USE AROUND SPARKS OR FLAMES. BOND CONTAINERS DURING FILLING OR DISCHARGE WHEN PERFORMED AT TEMPERATURES AT OR ABOVE THE PRODUCT FLASH POINT.

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THIS MSDS WAS WRITTEN TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDAR

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APPENDIX: REGULATORY INFORMATION

HE 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 DOCUMEN

...TSCA: THIS IS AN EPA REGISTERED BIOCIDE AND IS EXEMPT FROM TSCA INVENTO REQUIREMENTS
...FIFRA(40CFR):EPA REG.NO.: 3876- 149
...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:D001=IGNITABLE
...DOT HAZARD/UN#/ER GUIDE# IS :CORROSIVE TO SKIN,FLAMMABLE/UN2920/#29
...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);FIRE
...MICHIGAN CRITICAL MATERIALS:
NO REGULATED CONSTITUENT PRESENT AT OSHA THRESHOLDS
NFPA/HMIS : HEALTH - 3; FIRE - 2; REACTIVITY - 0; SPECIAL - NONE; PE - B