

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

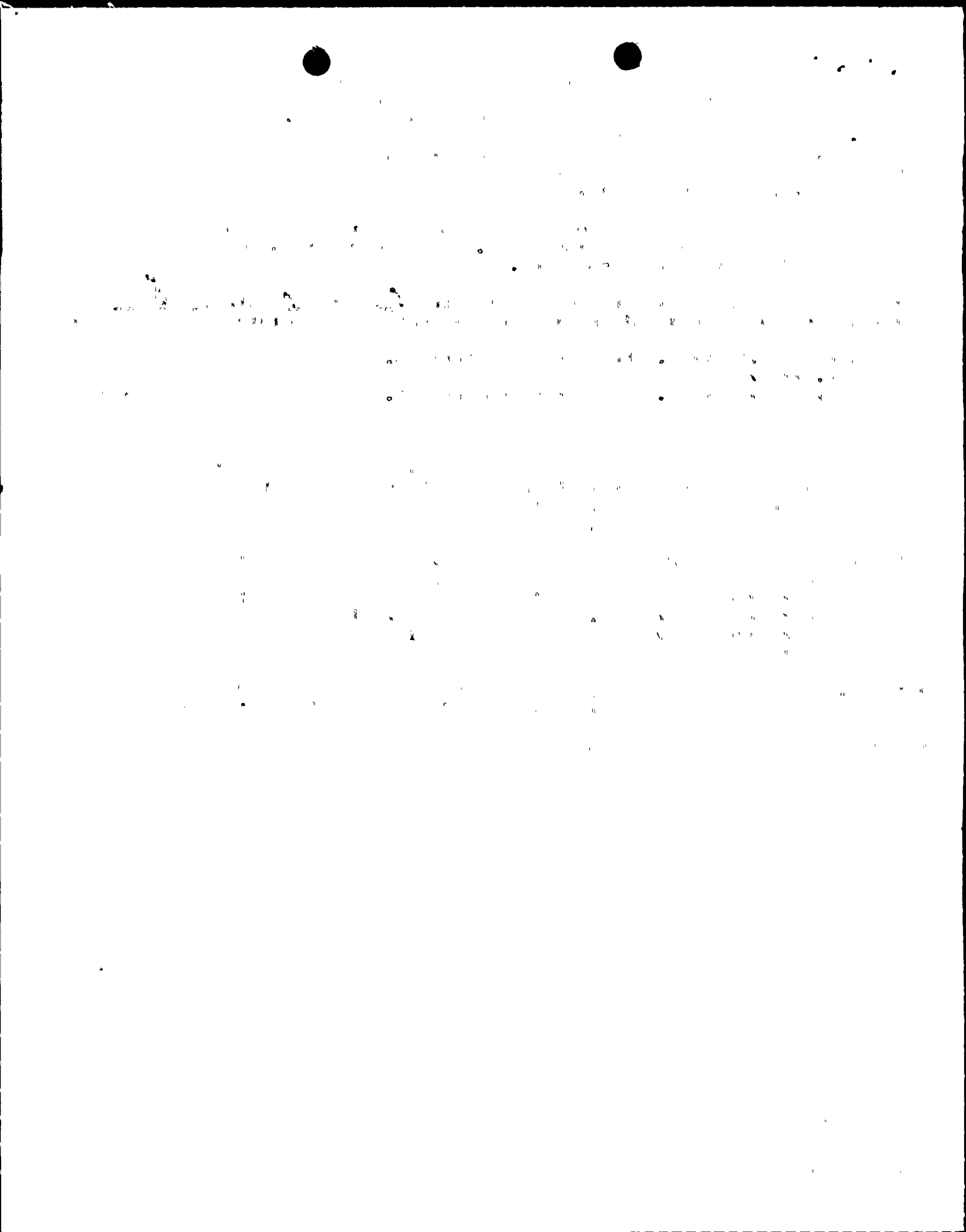
ACCESSION NBR: 8510220060 DOC. DATE: 85/10/15 NOTARIZED: NO DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387  
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388  
 AUTH. NAME: AUTHOR AFFILIATION  
 FIELDS, J.S. Pennsylvania Power & Light Co.  
 RECIP. NAME: RECIPIENT AFFILIATION  
 AGUSTINI, D.R. Pennsylvania, Commonwealth of

SUBJECT: Responds to 850924 telcon re update on diesel generator closed cooling sys discharges. Matl safety data sheet for Calgon Product LCS-59 encl.

DISTRIBUTION CODE: C001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8  
 TITLE: Licensing Submittal: Environmental Rept Amdt & Related Correspondence

NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000387  
 OL: 07/17/82  
 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000388  
 OL: 03/23/84

	RECIPIENT ID CODE/NAME		COPIES LTTR ENCL		RECIPIENT ID CODE/NAME		COPIES LTTR ENCL
	NRR LB2 BC	18	1	1	NRR LB2 LA	19	1 1
	CAMPAGNONE	04	1	1			
INTERNAL:	ACRS	20	6	6	ADM/LFMB		1 0
	ELD/HDS4		1	0	NRR/DE/AEAB	08	1 1
	NRR/DE/EEB	06	1	1	NRR/DE/EHEB		1 1
	NRR/DE/SAB	07	1	1	NRR/DSI/METB		1 1
	NRR/DSI/RAB	09	1	1	<u>REG FILE</u>		1 1
	RGN1		1	1			
EXTERNAL:	24X		1	1	LPDR	03	2 2
	NRC PDR	02	1	1	NSIC	05	1 1
NOTES:			3	3			





# Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

October 15, 1985

Mr. Dino R. Agustini  
Sanitary Engineer, Permits and Grants Section  
Bureau of Water Quality Management  
Pa. Department of Environmental Resources  
90 East Union Street - Second Floor  
Wilkes-Barre, PA 18701-3296

SUSQUEHANNA STEAM ELECTRIC STATION  
UPDATE OF DIESEL GENERATOR CLOSED COOLING SYSTEM  
CHEMICAL DISCHARGES  
CCN 741326 FILE 138-01  
PLE-7680

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Dear Mr. Agustini:

In response to our September 24, 1985 telephone conversation, the Pennsylvania Power and Light Company (PP&L) wishes to update information previously provided to the Pennsylvania Department of Environmental Resources (Pa DER) on Diesel Generator closed cooling system discharges. Previously, PP&L on August 13, 1985, (letter PLE-7469) notified the Pa. DER that Betz Prefilm 108L, a quarternary biocide, and sodium hypochlorite were to be used to clean this closed cooling system. Your letter of August 28, 1985, concurred with PP&L's chemical treatment plan for discharge to the sewage treatment plant.

In addition to disposal of these chemicals, there is in this cooling system at present, spent Calgon product LCS-59, a quaternary biocide, and tributyl tin oxide. Per our discussion, these chemicals will be slowly discharged with the Betz Prefilm 108L into the sewage treatment plant. Attached is a material safety data sheet for LCS-59.

Finally, once the closed cooling system is cleaned, Powerline PPL05, a Sodium Molybdate solution (150-250 ppm) with active acrylate from polyacrylic acid (3-5 ppm) and tolyl triazole (10-15 ppm) will be added to the system for permanent corrosion and bacterial control. Every few years it may be necessary to clean this system and it is also recommended on the attached material safety data sheet for discharge to a sewage treatment plant. Any discharges to the sewage treatment plant will be conducted so as not to disturb the plant operation.

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PDR ADDCK 05000387  
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*Cool  
/i*

October 15, 1985

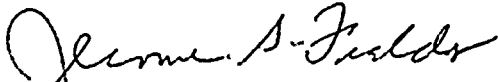
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CCN 741326

PLE-7680  
FILE-138-01

If you have any questions or concerns, please contact me at (215) 770-7889.

Respectfully yours,



Jerome S. Fields  
Senior Environmental Scientist - Nuclear

JSF/amc

cc: A. Schwencer NRC

jsfltj003741i

Attachments



23.10

## BOILER WATER PRODUCT DATA SHEET LCS-59 CORROSION INHIBITOR

### DESCRIPTION

Calgon® LCS-59 Corrosion Inhibitor is a synergistic combination of sodium nitrite-borax and organic inhibitors which prevents corrosion of ferrous and non-ferrous metals in low-make-up closed cooling and heating systems.

### PURPOSES

LCS-59 Corrosion Inhibitor controls corrosion of piping, valves, pumps and heat exchangers by producing a protective film on all exposed metal surfaces — iron, steel, copper, copper alloys, aluminum and brass. It also prevents deposition of copper on ferrous surfaces by "tying up" any copper which might be introduced with the makeup. This eliminates the possibility of attack caused when the copper deposits on steel to form galvanic cells.

It works effectively over a wide range of conditions, such as in systems of multi-metal construction, where oxygen content is high or where flow is low.

LCS-59 provides excellent protection to soldered connections at all temperatures when hard solder (95/5 tin-antimony) is used. It also provides substantial protection to soft solder (50-50 lead-tin) at temperatures below 125°F.

Many plants have found, often after costly experience, that chemical treatment is indispensable for minimizing corrosion difficulties in closed cooling and heating systems. Others have adopted treatments from the initial start-up as insurance against possible corrosion. Prior to initiating LCS-59 treatment, Calgon Corporation's BC-4 Industrial Cleaner is recommended for pre-operational cleanup of new systems.

In previously untreated systems, LCS-59 Corrosion Inhibitor may have a mild dispersing or sloughing action on existing deposits and corrosion products. To prevent trouble which can be caused by this debris, it may be desirable to clean the system with BC-4 Industrial Cleaner before beginning treatment. In some cases, problems can be prevented simply by flushing the system thoroughly and adding fresh inhibitor.

Do not use in potable water systems.

### ADVANTAGES

- Controls corrosion of both ferrous and non-ferrous metals.
- Buffering agent automatically adjusts pH at the preferred level.

- Does not adversely affect pump glands, rubber hose, water seals, and valve packings.
- Compatible with solutions of alcohol and glycol-base antifreezes, and will not form sludge.
- Easy to handle and does not affect normal skin.
- Does not contain chromate or product color in the treated water, thereby eliminating the possibility of stain.
- Eliminates labor costs from mixing dry chemicals.
- Insures good heat transfer and reduces maintenance and operating costs.
- Safe for use in high temperature water systems.

### FEED REQUIREMENTS

Initially, about 1 gallon of LCS-59 Corrosion Inhibitor is suggested for each 20 gallons of water-holding capacity in the system. More inhibitor should be added as needed to maintain the dosage prescribed by the Calgon field representative.

LCS-59 Corrosion Inhibitor may be fed into the system as received.

### CONTROL

A simple dropper-type titration test unit (K0062) is available from Calgon Corporation to determine LCS-59 Corrosion Inhibitor content in water.

This test is satisfactory for alcohol-water solutions. A modified test unit (K0065) has been developed for water containing glycol-base antifreeze. Instructions are furnished with all test units.

Occasional pH checks should be made of LCS-59 Corrosion Inhibitor treated glycol solutions to be certain the minimum of 7.0 is maintained.

In boiler systems, periodic checks of total solids should be made to prevent over-concentration.

### SPECIFICATIONS

Appearance .....	clear yellow liquid
pH at 25°C .....	10.7 to 10.9
Specific Gravity @ 25°C .....	1.06 to 1.09
Weight .....	8.8 lbs/gal
Freeze Point .....	23°F

## STORAGE

Store in a dry place. Keep drum tightly closed. Do not store at temperatures below 23°F. Freezing, however, is not detrimental to product and thawing will restore it to original condition with properties unchanged.

## PACKAGING

Available in 30 gallon drums (250 lbs. net; 264 lbs. gross). Freight classification: Compounds, Iron or Steel Rust Preventing or Removing Compounds, O/T Petroleum NOI, in Bulk and Barrels.

## PRECAUTIONS

**WARNING!** May Cause Irritation. (Contains Alkaline Nitrite Solution). Avoid contact with eyes, skin or clothing. Wash thoroughly after handling.

**FIRST AID:** Eye — In case of eye contact, immediately flush with plenty of water for at least 15 minutes. Call a physician. Skin — In case of skin contact, flush with plenty of water for at least 15 minutes. If irritation develops, call a physician. Wash clothing before reuse.

*For information regarding incidents involving human and environmental exposure, call (412) 777-8000 and ask for the Regulatory and Trade Affairs Department.*

9/24/85

Spoke with Herman Bernbaum of Colgan  
and discharge to sewage plant is acceptable.

J. Fields

# MATERIAL SAFETY DATA SHEET

DATE October 20, 1983

6275-08-22-83-812



PRODUCT NAME

LCS-59

## SECTION I

MANUFACTURER'S NAME <b>Calgon Corporation</b>		EMERGENCY TELEPHONE NO. <b>(412) 777-8000</b>
ADDRESS <b>P. O. Box 1348, Pittsburgh, Pennsylvania 15230</b>		
CHEMICAL NAME AND SYNONYMS <b>Alkaline Solution</b>	FORMULA <b>Multicomponent Liquid</b>	

## SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	%	ORAL LD <sub>50</sub>	DERMAL LD <sub>50</sub>	TLV (Units)
<b>Sodium Nitrite</b>	<b>4</b>	<b>Rat ① 171 mg/kg</b>	<b>Unknown</b>	<b>N/A</b>

① Lab Results

## SECTION III PHYSICAL DATA

BOILING POINT (°F)	<b>&gt; 212</b>	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	<b>1.076</b>
VAPOR PRESSURE (mmHg.)	<b>Similar to Water</b>	PERCENT VOLATILE BY VOLUME (%)	<b>90</b>
VAPOR DENSITY (AIR=1)	<b>Similar to Water</b>	pH	<b>10.8</b>
SOLUBILITY IN WATER	<b>Complete</b>		

APPEARANCE AND ODOR **Clear light yellow liquid**

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	<b>Not Flammable</b>	FLAMMABLE LIMITS	Let	Uel
EXTINGUISHING MEDIA	<b>Product is not flammable.</b>			
SPECIAL FIRE FIGHTING PROCEDURES	<b>None</b>			
UNUSUAL FIRE AND EXPLOSION HAZARDS	<b>None</b>			

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

**SECTION V HEALTH HAZARD DATA**

**EFFECTS OF OVEREXPOSURE**

May cause irritation

**EMERGENCY AND FIRST AID PROCEDURES**

**EYE:** In case of contact, flush with plenty of water for at least 15 minutes. Call a physician.

**SKIN:** In case of contact, flush with plenty of water for at least 15 minutes. If irritation develops, call a physician. Wash clothing before reuse.

**SECTION VI REACTIVITY DATA**

STABILITY	STABLE	X	CONDITIONS TO AVOID
	UNSTABLE		
INCOMPATIBILITY (Materials to Avoid)			Acid
HAZARDOUS DECOMPOSITION PRODUCTS			Oxides of nitrogen
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	
MAY OCCUR	NO		

**SECTION VII SPILL OR LEAK PROCEDURES**

REPORTABLE QUANTITIES (RQ) IN LBS. OF EPA HAZARDOUS SUBSTANCES IN PRODUCT

1.	Sodium Nitrite	100
2.		
3.		

NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING 2,630 LBS.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Dispose of in accordance with local, state and federal regulations. Dike area to contain as much spilled material as possible. Remove any remaining material by absorbing on vermiculite or other suitable absorbing material and place in a sealed metal container for disposal.

WASTE DISPOSAL METHOD

Add soda ash and water. Cautiously add calcium hypo chlorite. Add more water and let stand one hour. Dilute and neutralize with 6M-HCl or 6M-NaOH. Flush with plenty of water and dispose of in accordance with local, state and federal regulations.

**SECTION VIII SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION (Specify Type)

Not Required

VENTILATION

LOCAL EXHAUST	Not Required	SPECIAL  OTHER
MECHANICAL (General)	Not Required	

PROTECTIVE GLOVES

Rubber

EYE PROTECTION

Safety glasses or eye goggles

OTHER PROTECTIVE EQUIPMENT

Not Required

**SECTION IX SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with eyes, skin and clothing. Keep container closed. Wash thoroughly after handling.

OTHER PRECAUTIONS



BETZ MATERIAL SAFETY DATA SHEET

EMERGENCY TELEPHONE NUMBER 215/355-3300

PRODUCT : POWERLINE PPL05

EFFECTIVE DATE 11-84

\*\*\*\*\*  
\* NFPA  
\* HEALTH - 2  
\* FIRE - 0  
\* REACTIVITY-0  
\* SPECIAL - ALK  
\*\*\*\*\*

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

ACGIH INGREDIENT TLV-TWA(SEE LATEST TLV BULLETIN):

MOLYBDENUM(SOL)-5MG/M3 (STEL=10MG/M3)

OSHA INGREDIENT PERMISSIBLE EXPOSURE LIMIT(SEE PART 1910 TABLES Z-1 AND Z-2):

MOLYBDENUM(SOL)-5MG/M3

\*\*\* GENERIC DESCRIPTION \*\*\*

AN AQUEOUS SOLUTION CONTAINING A MOLYBDATE SALT, A POLYCARBOXYLIC ACID, AN AROMATIC NITROGEN HETEROCYCLE AND SODIUM HYDROXIDE.

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

PH: <u>AS IS</u> (APPROX.) <u>12.9</u>	B.PT.OF OR B.RANGE: ND
FL.PT.(DEG.F): >200 SETA(CC)	SP.GR.(70/70oF)OR DENSITY: 1.130
VAPOR PRESSURE(mmHG): ND	VAPOR DENSITY(AIR=1): ND
VISC cps70oF: 9	%VOLATILES: 85
EVAP.RATE: <1 ETHER=1	%SOLUBILITY(WATER): 100
PHYSICAL STATE: LIQUID	APPEARANCE: LIGHT YELLOW
ODOR: MILD	FREEZE POINT(DEG.F): 26

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

THERMAL DECOMPOSITION YIELDS OXIDES OF C,N,S OR P IF PRESENT, STABLE

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

ACUTE SKIN EFFECTS\*\*\*  
MODERATELY IRRITATING TO THE SKIN  
ACUTE EYE EFFECTS\*\*\*  
SEVERE IRRITANT TO THE EYES  
ACUTE RESPIRATORY EFFECTS\*\*\*  
MISTS/AEROSOLS CAUSE IRRITATION TO UPPER RESPIRATORY TRACT  
CHRONIC EFFECTS\*\*\*  
CHRONIC EFFECTS OF THIS FORMULATION HAVE NOT YET BEEN FULLY EVALUATED

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

OVER

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

SPILL INSTRUCTIONS\*\*\*

GENERAL-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. SPECIFIC- FLUSH AREA WITH WATER. WET AREA MAY BE SLIPPERY. IF SO, SPREAD SAND OR GRIT.

DISPOSAL INSTRUCTIONS\*\*\*

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

FIRE EXTINGUISHING INSTRUCTIONS\*\*\*

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

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

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 CARTRIDGES  
RECOMMENDED SKIN PROTECTION\*\*\*

RUBBER GLOVES

REPLACE AS NECESSARY

RECOMMENDED EYE PROTECTION\*\*\*

SPLASH PROOF CHEMICAL GOGGLES

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

STORAGE INSTRUCTIONS\*\*\*

GENERAL-KEEP CONTAINER CLOSED  
SPECIFIC- PROTECT FROM FREEZING

HANDLING INSTRUCTIONS\*\*\*

GENERAL-IMMEDIATELY REMOVE CONTAMINATED CLOTHING, WASH BEFORE REUSE  
SPECIFIC- ALKALINE. DO NOT MIX WITH ACIDIC MATERIAL.

-----SECTION 9-----FEDERAL REGULATIONS-----

OSHA (29 CFR) - FOR RESPIRATORY PROTECTION USE PROPERLY FITTED MSHA/NIOSH APPROVED RESPIRATORY EQUIPMENT WITHIN USE LIMITATIONS. OTHERWISE, USE SUPPLIED AIR APPARATUS.

CWA (40 CFR) REPORTABLE QUANTITY: AS IS PRODUCT (HAZARDOUS SUBSTANCE)  
23,789 GALS. (SODIUM HYDROXIDE)

RCRA (40 CFR): IF DISCARDED, THIS MATERIAL BEARS HWI# D002

DOT (49 CFR) CLASSIFICATION: NOT APPLICABLE

THIS FORM IS ESSENTIALLY EQUAL TO OSHA 20 FORM. WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF, BETZ LABORATORIES, INC. MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

HAROLD M. HERSH  
ENVIRONMENTAL INFORMATION COORDINATOR