

NET WEIGHT - 490 LBS.

ACCEPTED  
JUL 13 1973  
UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENT GIDE ACT

U. S. PATENT NO. 2,927,052

EPA REG. NO. 4855-4

FOR CONTROL OF BACTERIA AND FUNGI

**FOR INDUSTRIAL USE ONLY**

**ACTIVE INGREDIENTS:**

COLLOIDAL SILVER AS ELEMENTAL\* ..... 3.2%  
COLLOIDAL COPPER AS ELEMENTAL\* ..... .6%  
\*COMBINED AS ALLOY METAL

**INERT INGREDIENTS:** ..... 96.2%

USE: Refer to the appropriate product bulletin -"MICRODYN for Pulp & Paper Industry" and/or "MICRODYN for Industrial Waters."  
cold weather MICRODYN gels, returning it to room temperature will restore it to its original state.

**CAUTION:** This product may cause temporary discoloration and or mild irritation of skin. In case of contact, wash with water.

**UNITED STATES**



THIS PRODUCT IS TO BE USED ONLY ON TREATED EFFLUENT FROM PULP AND PAPER MILLS DISCHARGED WHERE IT WILL NOT BE A SOURCE OF POLLUTION INTO LAKES, STREAMS, PONDS OR PUBLIC WATER.

**CORPORATION**

863 N. Orleans Street  
Chicago, Illinois 60610  
Phone: (312) 943-1530

NET WEIGHT - 490 LBS.

# MICRODYN®

EPA REC. NO. 4855-4

FOR CONTROL OF BACTERIA AND FUNGI

FOR ECONOMIC POISON REGISTERED UNDER NO. 4855-4 SUBJECT TO ATTACHED COMMENTS.

## FOR INDUSTRIAL USE ONLY

### ACTIVE INGREDIENTS:

COLLOIDAL SILVER AS ELEMENTAL\* ..... 3.2%

COLLOIDAL COPPER AS ELEMENTAL\* ..... .6%

\*COMBINED AS ALLOY METAL

**INERT INGREDIENTS:** .....96.2%

USE: Refer to the appropriate product bulletin -"MICRODYN for Pulp & Paper Industry" and/or "MICRODYN for Industrial Waters." If in cold weather MICRODYN® gels, returning it to room temperature will restore it to its original state.

**CAUTION:** This product may cause temporary discoloration and/or mild irritation of skin. In case of contact, wash with water.

COLLOIDAL SILVER AS ELEMENTAL . . . . .  
COLLOIDAL COPPER AS ELEMENTAL . . . . .  
COMBINED AS ALLOY METAL . . . . .

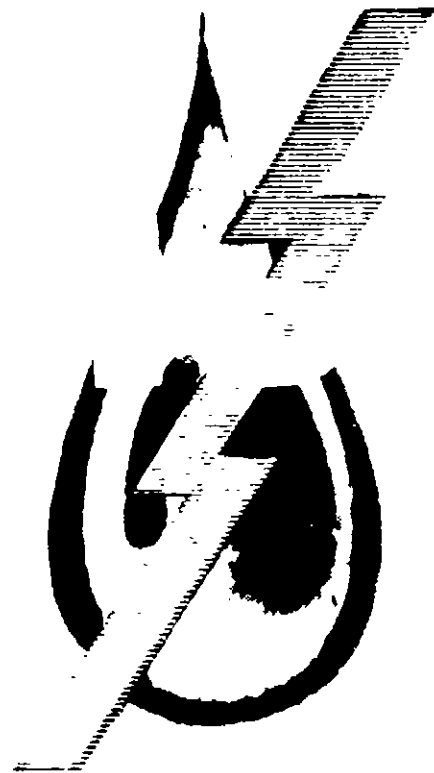
3.2  
.6  
96.2

**INERT INGREDIENTS:**

MSD is sold to the appropriate processor under the "MICRODYN" name for "Paper Industry" and for "MICRODYN for Industrial Water." In cold weather MICRODYN gels, returning it to room temperature will restore it to the original state.

**CAUTION:** This product may cause temporary discoloration and irritation of the skin. Wash with water.

**UNITED STATES**



Microdynam  
863 N. Orleans Street  
Chicago, Illinois 60610  
Phone: (312) 943-1530

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Chicago, Illinois 60610  
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NET WEIGHT - 490 LBS.

# MICRODYN®

EPA REG. NO. 4855-4

FOR CONTROL OF BACTERIA AND FUNGI

## FOR INDUSTRIAL USE ONLY

### ACTIVE INGREDIENTS:

COLLOIDAL SILVER AS ELEMENTAL\* ..... 3.2%

COLLOIDAL COPPER AS ELEMENTAL\* ..... .5%

\*COMBINED AS ALLOY METAL

**INERT INGREDIENTS:** ..... 96.2%

USE: Refer to the appropriate product bulletin -"MICRODYN for Pulp & Paper Industry" and/or "MICRODYN for Industrial Waters." If in cold weather MICRODYN® gels, returning it to room temperature will restore it to its original state.

**CAUTION:** This product may cause temporary discoloration and/or mild irritation of skin. In case of contact, wash with water.

THIS PRODUCT IS TOXIC TO FISH. TREATED EFFLUENT SHOULD NOT BE DISCHARGED WHERE IT WILL DRAIN INTO LAKES, STREAMS, PONDS OR PUBLIC WATER.

# Movidyn



LABORATORY  
863 NORTH ORLEANS STREET, CHICAGO, ILL. 60610

P R O D U C T      B U L L E T I N      -      4A

M I C R O D Y N   F O R   T H E   P U L P   A N D   P A P E R   I N D U S T R Y  
FOR THE CONTROL OF BACTERIA AND FUNGI

TYPICAL PROPERTIES:

ACTIVE INGREDIENTS:	..... SILVER .....	3.2 %
	..... COPPER .....	.6 %
INERT INGREDIENTS:	.....	<u>96.2 %</u>
	TOTAL .....	100.0 %

The silver and copper are in the colloidal form made by an industrial adaptation of U.S.P. No. 2,927,052.

The colloid suspension is stabilized for an indefinite period, if it is shielded from light in opaque containers, or in red or amber colored glass or plastic.

APPEARANCE:

The product is a reddish-brown liquid with a characteristic slight opalescence. It will not impart any color to the paper stock.

ODOR : Does not contribute any to paper products.

VOLATILITY OF ACTIVE INGREDIENTS: None

SPECIFICATIONS:

Density:	1.052 - 1.059 grams/ml. @ 25°C
Pounds/Gal.:	8.75
ml/lb.:	430

USE : In Pulp and Paper Mills.

MICRODYN is used in pulp and paper mills for the prevention of deposits caused by bacteria and fungi. The treatment is designed to keep the microbiological population at a low level so that agglomerations of these organisms will not interfere with production of paper or affect the quality of the finished product. The following points of addition are descriptive. The actual point or points of addition and the dosage within the ranges specified can be properly determined after a survey of the particular system by our representative in collaboration with the technical personnel of the mill.

UNION PACIFIC **Movidyn** CORPORATION

FOR PAPER MACHINES

1. General Machine Treatment

MICRODYN can be added at one or more places, such as the beater, hydropulper, before or after the refiners, storage chests, machine chest, head box, wire pit and fan pump.

The dosage range should be at the level of .25 to 5 parts per million by weight of MICRODYN to the weight of furnish. This should be added by pump preferably by continuous feed. As an alternative, slug feed can be used in which an equivalent amount is added at intervals, such that good control is maintained.

2. BROKE. In some mills, almost the whole treatment is based on the highly contaminated broke system. The amount to be added depends upon the amount of microbiological contamination.

For highly contaminated systems, the broke should be treated with 1 to 10 parts per million by weight of MICRODYN to the weight of the broke in the chest. To begin with, it would be best to start at the higher level of the suggested range and then reduce the amount of MICRODYN toward the lower end of the range as long as control is achieved.

HANDLING:

Equipment; pumps, lines and valves should be made of plastic, stainless steel, ceramic or glass.

For plastic; polyethylene, polypropylene, polyvinyl chloride, teflon and similar materials are acceptable.

Iron, copper, bronze, brass, tin, aluminum, lead, zinc and chrome must never be allowed to contact the concentrated MICRODYN, or the product will become unstable and less active.

In actual use, the dilute solutions of MICRODYN are effective in the presence of the above metals. It is only with the MICRODYN concentrate that precautions must be taken.

If MICRODYN is jelled or frozen, warm to room temperature (70° - 90° F) and roll the drum before use.

PACKAGING: Shipped in: 50 lbs. in stainless steel, returnable pails.

450 lbs. in non-returnable plastic drums with steel overpack.

490 lbs. in returnable stainless steel drums.

SAFETY: MICRODYN can cause stains on skin and clothing. Therefore, care in handling the product should be observed.

MICRODYN may cause temporary discoloration and/or mild irritation of skin. In case of contact, wash with water.

This product is toxic to fish. Treated effluent should not be discharged where it will drain into lakes, streams, ponds or public water.

# Movidyn

LABORATORY  
265 NORTH ORLEANS STREET, CHICAGO, ILL. 60610

P R O D U C T      B U L L E T I N      -      4B

M I C R O D Y N   F O R   I N D U S T R I A L   W A T E R S  
FOR THE CONTROL OF BACTERIA AND FUNGI

TYPICAL PROPERTIES

ACTIVE INGREDIENTS:	..... SILVER .....	3.2 %
	..... COPPER .....	.6 %
INERT INGREDIENTS:	.....	<u>96.2 %</u>
	TOTAL .....	100.0 %

The silver and copper are in the colloidal form made by an industrial adaptation of U.S.P. No. 2,927,052.

The colloid suspension is stabilized for an indefinite period, if it is shielded from light in opaque containers, or in red or amber colored glass or plastic bottles.

APPEARANCE:

The product is a reddish-brown liquid with a characteristic slight opalescence.

ODOR: Does not contribute any to the water.

VOLATILITY OF ACTIVE INGREDIENTS: None

SPECIFICATIONS:

DENSITY:	1.052 - 1.059 grams/ml. @ 25°C
POUNDS/GAL.:	8.75
ml/lb.:	430

USE: MICRODYN is used in industrial recirculating water cooling towers; and for ponds, reservoirs, raw water for process water in non-food applications, and for cooling heater exchangers. It is intended for the prevention of deposits caused by bacteria and fungi. The treatment is designed to keep the microbiological population at a low level so that agglomeration of these organisms do not affect the use for which the water is intended. The following points of addition are descriptive. The actual point or points of addition and the dosage within the ranges specified can be properly determined after a survey of the particular system by our representative in collaboration with the technical personnel of the water system under treatment.

