

March 15, 1981

Builetin No. E690

DCDIC and PNMDC

For the Formulation of Water Treatment Microbicides

DCDIC and PNMDC are microbicide concentrates manufactured by Buckman Laboratories. These concentrates can be formulated into water treatment microbicides for inhibiting the growth of algae or bacteria in commercial or industrial water systems. Both products are completely water solucie and can readily be mixed with each other and/or diluted with water to any desired lower concentration.

PRODUCT CHARACTERISTICS

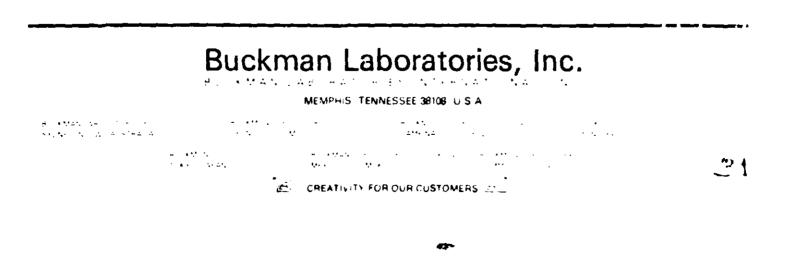
DCDIC and PNMDC are both liquids that can be handled or stored in polyethylene, polypropylene, Teflon, molded hylon, or stainless steel equipment. Contact of the cor centrated products with copper or copper alloys or alkali-sensitive materials of construction should be avoided.

DCDIC contains a minimum of 32.0% by weight of the active ingredient disodium cyanodithioimidocarbonate. PNMDC contains a minimum of 54.0% by weight of the active ingredient potassium N-methyldithiocarbamate. The following are typical physical properties of these microbicide concentrates:

	DCDIC	PNMDC	ED	Le Act.
Density (25 °C, 77 °F)	1.281 g/mL 10.67 ib/gal	1.239 g/mL 10.82 lb∕gai	E	1981
Volume per unit weight	781 mL/kg 354 mL/lb	770 mL/kg 349 mL/k	ΕP	
Active ingredients per unit volume	410 g/L 3.41 lb/gal	701 g/L 5.84 lb∕gal	U U	JUN JUN June June June June June June June June
pH (as is)	»13 ¯	>13	AC	The second se

FORMULATION OF MICROBICIDES

DCDIC and PNMDC are both effective microbicides for the control of algae or bacteria in commercial and industrial water systems. They are most effective, however, if used in combination. Microbicides containing both products as active ingredients have a bruader spectrum of microbicidal activity. Table 1 contains some suggested formulations that provide a combination of the two materials at one ratio in various dilutions.



SPECIMEN LABELS

All pesticide formulations must be accepted for registration by the U.S. Environmental Protection. Agency (EPA) and appropriate state agencies before they can be shipped or sold in the United States. Specimen tables for Furmulas 1, 2, 3, and 4 are provided in the following pages of this bulletin.

NOTE Formulators may be required to submit further data to the EPA to support the registration of their products if the specimen labels are not closely followed. When so required, formulators are responsible for obtaining and submitting the necessary data to the EPA.

Ingredients		Formula 1	Formula 2	Formula 3	Formula
		96		90	940
DCDIC		46.0	23 0	15 33	11.5
PNMDC		376	18.8	12.53	9.4
Water		16.4	58.2	72.14	79.1
	TOTAL	100 0	100 0	100 0	100.0
Product Characteristics					
Active ingredients To impro-	/	35 0	17 5	11 65	8.75
Density at 25 C, g mL typicali		1 220	1 118	1.079	1 057

PRECAUTIONS

The following are the human and environmental safety precautions for DCDIC and PNMDC as they appear on both product lifabels.

KEEP OUT OF REACH OF CHILDREN WARNING

STATEMENT OF PRACTICAL TREATMENT

In case of eye contact, wash with plenty of soap and water. Remove contaminated clothing and wash before reuse. If product gets in the eyes, flush immediately with copious amounts of clean cool water for at least 15 minutes. Get medical attention immediately. If swallowed, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING Causes eye damage and skin stritation. Do not get in eyes, on skin, or on clothing. What goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Avoid cortamination of food.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Keep out of lakes, streams, or ponds. Permits may be required the discharges containing this pesticide into lakes, streams, ponds, or public water. For guidance in the regional office of the Environmental Protection Agency.

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STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies.

CONTAINER DISPOSAL. Triple rinse (or equivalent) and dispose of in an incinerator or landfil approved for pesticide containers, or bury in a safe place. Consult Federal. State, or local dispusaauthorities for approved alternative procedures such as limited open burning.

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