



Product Data

March 15, 1981

Bulletin No. E69U

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 soluble 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 nylon, or stainless steel equipment. Contact of the concentrated 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
Density (25 °C, 77 °F)	1.281 g/mL 10.67 lb/gal	1.239 g/mL 10.82 lb/gal
Volume per unit weight	781 mL/kg 354 mL/lb	770 mL/kg 349 mL/lb
Active ingredients per unit volume	410 g/L 3.41 lb/gal	701 g/L 5.84 lb/gal
pH (as is)	13	13

ACCEPTED
 JUN 25 1981
 U.S. Environmental Protection Agency
 Office of Pesticide Registration
 Registered under FIFRA Act
 EPA Reg. No. 1444-74

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 broader spectrum of microbicidal activity. Table 1 contains some suggested formulations that provide a combination of the two materials at one ratio in various dilutions.

Buckman Laboratories, Inc.

BUCKMAN LABORATORIES, INC., MEMPHIS, TENNESSEE, U.S.A.

BUCKMAN LABORATORIES, INC.

MEMPHIS, TENNESSEE

MEMPHIS, TENNESSEE

MEMPHIS, TENNESSEE

MEMPHIS, TENNESSEE

MEMPHIS, TENNESSEE

MEMPHIS, TENNESSEE

CREATIVITY FOR OUR CUSTOMERS

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 labels for Formulas 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.

TABLE 1
Suggested Formulations for Water Treatment Microbicides

Ingredients	Formula 1	Formula 2	Formula 3	Formula 4
	%	%	%	%
DCDIC	46.0	23.0	15.33	11.5
PNMDC	37.6	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 (g/min)	35.0	17.5	11.65	8.75
Density at 25°C (g/mL typical)	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 labels:

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 irritation. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Avoid contamination of food.

ENVIRONMENTAL HAZARDS

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

6

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 landfill approved for pesticide containers, or bury in a safe place. Consult Federal, State, or local disposal authorities for approved alternative procedures such as limited open burning.

© 1998 by The Dow Chemical Company. All rights reserved. This document is the property of The Dow Chemical Company. It is to be used only for the purposes specified in the accompanying literature. It is not to be distributed, copied, or otherwise used without the prior written consent of The Dow Chemical Company. Printed in U.S.A.