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READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT.

USE ONLY IN ACCORDANCE WITH INSTRUCTIONS.

KEEP OUT OF REACH OF CHILDREN

DESTROYER 480



INGREDIENTS

Dicamba48%
Other ingredients52%

DESTROYER 480 is a benzoic acid herbicide. It can be applied to the leaves or to the soil.

DESTROYER 480 controls annual and perennial broadleaf weeds in grain crops and grasslands, and it is used to control brush and bracken in pastures. It will kill broadleaf weeds before and after they sprout. Legumes will be killed by DESTROYER 480.

In combination with a phenoxyalkanoic acid or other herbicide, DESTROYER 480 is used in pastures, range land, and non-crop areas such as fence-rows and roadways to control weeds.

Trade and Other Names: Trade names include Banfel, Banvel, Banvel CST, Banvel D, Banvel XG, Dianat, Dicazin, Fallowmaster, Mediben, Metambane, Tracker, and Trooper.

Regulatory Status: The EPA has classified this General Use Pesticide (GUP) as toxicity class III - slightly toxic. Products containing dicamba bear the Signal Word WARNING. This is because of its irritating, corrosive effect on skin and eyes.

What is DESTROYER and how does it work? DESTROYER 480 is very similar to phenoxy class herbicides. They are applied as foliar sprays. They are systemic, selective and primarily effective in controlling broadleaf weeds, but are also effective in the soil. It upsets the

normal hormonal balance that regulates processes such as cell division, cell enlargement, protein synthesis, and respiration. That is why this group of herbicides is sometimes called the "hormone herbicides". Any herbicide that falls on the soil instead of the foliage can be percolated into the soil with rain or irrigation and will be taken up by weed roots.

Key Benefits of DESTROYER 480:

1. Easy effective application to foliage or soil
2. Controls annual and perennial broadleaf weeds in variety of environments

PRECAUTIONS

Harmful if swallowed, inhaled or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or vapor. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Keep children or pets away from treated area until dry.

SYMPTOMS OF POISONING

Irritation on skin or eyes.

MEDICAL TREATMENT

Treatment is symptomatic.

FIRST AID

If swallowed, call a physician or Poison Control Center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger or if available, by administering syrup of ipecac. Administer 1 tablespoon (15 ml) of syrup of ipecac followed by 1 to 2 glasses of water. If vomiting does not occur within 20 minutes, repeat the dose once. Do not induce vomiting or give anything by mouth to an unconscious person. If on skin, wash thoroughly with soap and water. Get medical attention if irritation occurs. If in eyes, hold eyelids open and flush with plenty of water.

DIRECTIONS OF USE

Weeds

Annual and perennial broad-leaved weeds and brush species

Crops	Dosage rate g ai/ha
Cereals	110-140
Maize, sugarcane	290-600
Pasture, rangeland, non-crop	1010-2200

0.5 to 1 pt/A 4S applied PRE in tank-mixtures with atrazine, Accent, Bladex, Dual, or Prowl gives broadspectrum weed control.

DESTROYER 480 mixtures are not recommended on coarse-textured sandy soils. Use the lower rate of DESTROYER 480 on medium soil with 2% OM.

At 0.5 to 1 pt/A 4S may be applied alone PRE or early POST to corn from emergence to 8 inches tall. DESTROYER 480 gives better control of Canada thistle, kochia, smartweed, wild buckwheat and volunteer sunflower than 2,4-D with less injury to corn. DESTROYER 480 alone only at the 0.5 pt/A can be applied if corn is greater than 8 inches tall or at 0.25 to 0.5 pt/A when combined with 2,4-D. DESTROYER 480 can be applied before corn is 3 feet tall or until 15 days before tassel emergence. Drop nozzles should be used after corn is 8 inches tall to reduce injury if DESTROYER 480 is applied with 2,4-D and to reduce drift potential. DESTROYER 480 can be mixed with Accent, Bladex and atrazine.

DISPOSAL METHODS

Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

STORAGE CONDITION

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilizers. Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank.

For More Details including effects on environment email contact@ivorychem.com with Subject "DESTROYER 480 DETAILS"

More Details:

TOXICOLOGICAL EFFECTS

- **Acute toxicity:** Dicamba is slightly toxic by ingestion and slightly toxic by inhalation or dermal exposure [7]. The oral LD50 for dicamba is 757 to 1707 mg/kg in rats, 1190 mg/kg in mice, 2000 mg/kg in rabbits, and 566 to 3000 mg/kg in guinea pigs [1,6]. The dermal LD50 in rabbits is greater than 2000

mg/kg (7). The inhalation LC50 for dicamba in rats is greater than 200 mg/L [7]. Symptoms of poisoning with dicamba include loss of appetite (anorexia), vomiting, muscle weakness, slowed heart rate, shortness of breath, central nervous system effects (victim may become excited or depressed), benzoic acid in the urine, incontinence, cyanosis (bluing of the skin and gums), and exhaustion following repeated muscle spasms [1,5]. In addition to these symptoms, inhalation can cause irritation of the linings of the nasal passages and the lungs, and loss of voice [7]. Most individuals who have survived severe poisoning from dicamba have recovered within 2 to 3 days with no permanent effects [7]. Dicamba is very irritating and corrosive, and can cause severe and permanent damage to the eyes [7]. The eyelids may swell and the cornea may be cloudy for a week after dicamba is splashed in the eyes [1]. In some individuals, dicamba is a skin sensitizer and may cause skin burns [7]. There is no evidence that dicamba is absorbed into the body through the skin [1].

- **Chronic toxicity:** Doses of 25 mg/kg/day in the diet administered to rats for 2 years produced no observable effects on survival, body weight, food consumption, organ weight, blood chemistry, or tissue structure [1,5,11]. Consumption of dicamba at high levels over a long period of time has been shown to cause changes in the liver and a decrease in body weight in rats [1,5,11]. In mice, some enlargement of liver cells has occurred [1].
- **Reproductive effects:** In a three-generation study, dicamba did not affect the reproductive capacity of rats [1]. When rabbits were given doses of 0.5, 1, 3, 10, or 20 mg/kg/day of technical dicamba from days 6 through 18 of pregnancy, toxic effects on the mothers, slightly reduced fetal body weights, and increased loss of fetuses occurred at the 10 mg/kg dose [5,10]. These data suggest that dicamba is unlikely to cause reproductive effects in humans at expected exposure levels.
- **Teratogenic effects:** No teratogenic effects have been shown in lab animals such as rabbits and rats exposed to dicamba [36].
- **Mutagenic effects:** Dicamba has not been shown to be a mutagen [5,10].
- **Carcinogenic effects:** Rats fed up to 25 mg dicamba/kg/day for 2 years

showed no increased incidence of tumors [5,10]. This evidence suggests that dicamba is not carcinogenic.

- **Organ toxicity:** Chronic exposure can lead to the development of the same symptoms as described for acute exposure.
- **Fate in humans and animals:** Dicamba was excreted rapidly by rats, mainly in the urine, when administered orally or subcutaneously; 1 to 4% was excreted in the feces [1]. Mice, rats, rabbits, and dogs excreted 85% of an oral dose as unmetabolized dicamba in the urine within 48 hours of dosing. Eventually, between 90 and 99% of the dose was excreted unmetabolized in the urine. This indicates that dicamba is rapidly absorbed into the bloodstream from the gastrointestinal tract [10]. When dicamba was ingested daily in the feed, the concentrations in different organs reached a steady state within 2 weeks. When daily intake stopped, storage in the organs declined rapidly [1]. It is therefore concluded that dicamba does not bioaccumulate in mammalian tissues.

ECOLOGICAL EFFECTS

- **Effects on birds:** Dicamba is practically nontoxic to birds. The LD50 for technical dicamba in mallard ducks is 2009 mg/kg. The 8-day dietary LC50 in mallards and in bobwhite quail is greater than 10,000 ppm [5,7].
- **Effects on aquatic organisms:** Dicamba is of low toxicity to fish [5,7]. The LC50 (96-hour) for technical dicamba is 135 mg/L in rainbow trout and bluegill sunfish, greater than 100 mg/L in grass shrimp, and greater than 180 mg/L in fiddler crab and sheepshead minnow [5]. The LC50 (48-hour) for dicamba is 35 mg/L in rainbow trout, 40 mg/L in bluegill, 465 mg/L in carp, and 110 mg/L in *Daphnia magna*, a small freshwater crustacean [5,7].
- **Effects on other organisms:** Dicamba poses little threat to wildlife. Dicamba is not toxic to bees [7].

ENVIRONMENTAL FATE

- **Breakdown in soil and groundwater:** Dicamba is moderately persistent in soil. The half-life of dicamba in soil is typically 1 to 4 weeks [21]. Under conditions suitable for rapid metabolism, the half-life is less than 2 weeks [20]. Metabolism by soil microorganisms is the major pathway of loss under most

soil conditions. The rate of biodegradation increases with temperature and increasing soil moisture, and tends to be faster when soil is slightly acidic. When soil moisture increases above 50%, the rate of biodegradation declines [5]. Dicamba slowly breaks down in sunlight [5]. Volatilization from soil surfaces is probably not significant, but some volatilization may occur from plant surfaces [20]. It is stable to water and other chemicals in the soil [6]. Dicamba does not bind to soil particles and is highly soluble in water. It is therefore highly mobile in the soil and may contaminate groundwater [21]. In humid areas, dicamba will be leached from the soil in 3-12 weeks [20].

- **Breakdown in water:** In water, microbial degradation is the main route of dicamba disappearance. Photolysis may also occur. Aquatic hydrolysis, volatilization, adsorption to sediments, and bioconcentration are not expected to be significant [20].
- **Breakdown in vegetation:** Dicamba is rapidly taken up by the leaves and roots of plants, and it is readily translocated to other plant parts. In some plant species, dicamba accumulates in the tips of mature leaves [5]. Desirable broadleaf plants such as fruit trees and tomatoes may be harmed during their growth and development stages [5]. Residues of dicamba on treated plants can disappear through exudation from the roots into the surrounding soil, metabolism within the plant, or by loss from leaf surfaces [5].

PHYSICAL PROPERTIES AND GUIDELINES

Physical Properties:

- **Appearance:** Pure dicamba is an odorless, white crystalline solid. The technical acid is a pale buff crystalline solid [6].
- **Chemical Name:** 3,6-dichloro-O-anisic acid [6]
- **CAS Number:** 1918-00-9
- **Molecular Weight:** 221.04
- **Water Solubility:** 6500 mg/L @ 25 C [6]
- **Solubility in Other Solvents:** acetone s.; dichloromethane s.; dioxane v.s.; ethanol s.; toluene s.; xylene s. [6]
- **Melting Point:** 114-116 C [6]

- **Vapor Pressure:** 4.5 mPa @ 25 C [6]
- **Partition Coefficient:** -0.5376 [5]
- **Adsorption Coefficient:** 2 (salt) [21]

Exposure Guidelines:

- **ADI:** Not Available
- **MCL:** Not Available
- **RfD:** 0.03 mg/kg/day [31]
- **PEL:** Not Available
- **HA:** 0.2 mg/L [10]
- **TLV:** Not Available



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