

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

AgrEvo USA Company  
Little Falls Centre One  
2711 Centerville Road  
Wilmington, DE 19808

**EMERGENCY TELEPHONE NUMBER**

In Case of Medical Emergencies or Health and Safety Inquiries, or in Case of Fire, Leaking, or Damaged Containers, Information May Be Obtained by Calling:  
1-800-228-5635, EXT. 202 (24 Hours)

**General Product Information Inquiries:**  
(302) 892-3000 (Days)

**PRODUCT NAME:** FICAM D  
**PRODUCT CODE:** F21402  
**CHEMICAL NAME:** 2,2-dimethyl-1,3-benzodioxol-4-yl methyl carbamate (a. i.)  
**CHEMICAL FAMILY:** Carbamate  
**CHEMICAL FORMULA:** Mixture (active ingredient: C<sub>11</sub>H<sub>13</sub>NO)  
**EPA REGISTRY NUMBER:** 45639-3  
**MSDS IDENTIFICATION CODE/NUMBER:** F21402

**CANADIAN REG. NO.:** 16080 P.C.P. ACT

**END-USE PRODUCT DESCRIPTION**

FICAM D is a Pesticide for use by Pest Control Professionals for the control of Indoor and Perimeter Household Insect Pests.

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

**INGREDIENT:** Bendiocarb  
**CAS NUMBER:** 22781-23-3  
**CONCENTRATION PERCENT BY WEIGHT:** 1  
**EXPOSURE LIMITS:**  
OSHA or ACGIH Limit: Not established  
World Health Organization recommended limit: 0.2 mg/m<sup>3</sup>

**INGREDIENT:** Inert ingredients  
**CAS NUMBER:** Trade Secret  
**CONCENTRATION PERCENT BY WEIGHT:** 99

**INGREDIENT:** Hydrous Magnesium Silicate  
**CAS NUMBER:** 14807-96-6  
**CONCENTRATION PERCENT BY WEIGHT:** < 70  
**EXPOSURE LIMITS:**  
OSHA-PEL = ACGIH-TLV - 2 mg/m<sup>3</sup>  
(Respirable dust)

**INGREDIENT:** Crystalline Silica (Quartz)  
**CAS NUMBER:** 14808-60-7  
**CONCENTRATION PERCENT BY WEIGHT:** < 1  
**EXPOSURE LIMITS:**  
OSHA-PEL=ACGIG-TLV: 0.1 mg/m<sup>3</sup>  
(Respirable crystalline silica)

**INERT INGREDIENTS (99.0%):** only the regulated ingredients are listed above. For additional information, refer to Section 15 (Regulatory Information).

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

**CAUTION. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN. DO NOT BREATHE DUST. INHALATION EXPOSURE MAY CAUSE RESPIRATORY IRRITATION AND SYMPTOMS ASSOCIATED WITH CHOLINESTERASE INHIBITION: HEADACHE, NAUSEA, DIZZINESS AND CONSTRICTED PUPILS.**

**POTENTIAL HEALTH EFFECTS****PRIMARY ROUTE(S) OF ENTRY**

Dust inhalation, skin contact and absorption.

**EYES**

May cause slight or no irritation.

**SKIN**

May be absorbed through the skin. Not likely to cause irritation. Not a skin sensitizer.

**INGESTION**

No specific health effects are known for ingestion of a small amount incidental to routine handling and use. Ingestion of large amount is harmful but its occurrence is considered highly unlikely under normal use conditions.

**INHALATION**

Do not breathe dust. Prolonged inhalation may cause respiratory irritation and symptoms associated with reversible cholinesterase inhibition (see Signs and Symptoms below).

**SUBCHRONIC (TARGET ORGAN EFFECTS)**

None under the recommended conditions of use.

**CHRONIC (CANCER INFORMATION)**

None of the product components are listed as a human carcinogen by OSHA and NTP. One inert ingredient contains a small amount (<1%) of crystalline silica which is a naturally occurring component of sand, clay, and inorganic soil. Chronic exposure to inhalable crystalline silica is known to cause silicosis (formation of fibrous tissue in the lung). IARC has listed the crystalline silica as a probable human carcinogen (class 2A), based on human inhalation exposures under excessive and chronic conditions (i.e. long term mineral or clay mining working conditions).

Ficam D contains only a very small amount (<1%) of respirable crystalline silica. Consequently, any long term risk, as those stated above under mining conditions, is considered highly unlikely. Under the recommended conditions of normal handling and use, excessive and chronic inhalation exposure by the consumer is unlikely.

**SIGNS AND SYMPTOMS**

Excessive inhalation of bendiocarb can cause reversible cholinesterase inhibition. The symptoms of overexposure are headache, nausea, dizziness, constricted pupils and reversible vision impairment. Ingestion of large amounts may cause vomiting, abdominal cramps, diarrhea, muscular incoordination, and incontinence.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE**

Excessive dust inhalation may aggravate pre-existing respiratory conditions.

**4. FIRST AID MEASURES****EYES**

Rinse thoroughly with clean water.

**SKIN**

Wash with soap and warm water.

**INGESTION**

Drink 1 or 2 glasses of water and induce vomiting by touching back of victim's throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

**INHALATION**

Keep patient at rest; transfer at once to hospital to get medical attention.

**NOTE TO PHYSICIAN**

Contains anticholinesterase carbamate insecticide. In case of overexposure, 2 mg atropine sulfate (equivalent to 1/30 grain adult dose) should be given and repeated as necessary until fully atropinized. Morphine is contraindicated. Control convulsions with 10-20 mg of diazepam intravenously. Miosis due to direct eye contact will reverse spontaneously without specific treatment.

**5. FIRE FIGHTING MEASURES****FLAMMABLE PROPERTIES**

**FLASH POINT:** Does not flash

**FIRE AND EXPLOSION HAZARDS**

When heated to the point of decomposition (above 140°C or 280°F), bendiocarb gives off a toxic fume which is rapidly eliminated by fire or water.

**EXTINGUISHING MEDIA**

Dry chemical, foam or water

**FIRE FIGHTING INSTRUCTIONS**

Wear positive pressure self-contained breathing apparatus. Use water to cool fire-exposed containers and personnel.

**6. ACCIDENTAL RELEASE MEASURES**

**GENERAL AND DISPOSAL:** Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with federal or local disposal regulations. Notify the appropriate authorities immediately. (see Section 15 for applicable Reportable Quantity (RQ) and other federal regulatory information).

**LAND SPILL AND LEAK:** KEEP PEOPLE AWAY. SWEEP UP OR, PREFERABLY, VACUUM while AVOIDING THE FORMATION OF A DUST CLOUD. Place material in a suitable container and seal. Areas can be washed with water and detergent to remove last traces of this product but keep the washings out of watercourses and sewers. Inform authorities at once if contamination has occurred.

**7. HANDLING AND STORAGE****HANDLING PRECAUTIONS**

HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN. DO NOT BREATHE DUST. DO NOT allow to contact skin, eyes or clothing. If contact occurs wash skin with soap and warm water, or eyes with clean water. Wash hands and exposed skin before eating, drinking or smoking and after handling. Wash all contaminated clothing thoroughly before reuse.

- DO NOT use on or contaminate fruit, vegetables or other food or feed crops.
- DO NOT apply to humans, animals, clothing or bedding.
- DO NOT contaminate feed or food products or food preparation surfaces, dishes, kitchen utensils and food containers.

**STORAGE PRECAUTIONS**

Store in a cool, dry place. DO NOT reuse empty container.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****ENGINEERING CONTROLS**

Control airborne concentrations below the exposure guideline (see Section 2 for OSHA/ACGIH exposure limits). Use with adequate ventilation. Local exhaust ventilation may be necessary if the product use is in a confined area

**EYE/FACE PROTECTION**

Safety glasses.

**SKIN PROTECTION**

PVC or rubber recommended.

**RESPIRATORY PROTECTION**

Ensure good ventilation. If not adequate, wear suitable dust respirator. Although general guidance has been provided, the degree of protection required in a particular situation depends on factors such as concentration and duration. More detailed advice on protective devices is available from AgrEvo.

**9. PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE**

Grey/white powder

**ODOR**

Odorless

**ODOR THRESHOLD**

Not applicable

**BASIC PHYSICAL PROPERTIES**

**PHYSICAL STATE:** Solid

**VAPOR PRESSURE:** Not volatile

**DENSITY:** 0.65 g/ml

**MELTING POINT:** Not Available

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable

**CONDITIONS TO AVOID (STABILITY)**

Extreme heat and moisture.

**HAZARDOUS DECOMPOSITION PRODUCTS**

When heated to the point of decomposition (above 1400°C or 2800°F), bendiocarb gives off a toxic fume which is rapidly eliminated by fire or water. It also generates hazardous oxides of carbon and nitrogen.

**HAZARDOUS POLYMERIZATION:** Will not occur

**11. TOXICOLOGICAL INFORMATION****EYE EFFECTS**

May cause a slight or no irritation.

**SKIN EFFECTS**

**DERMAL LD50 (rat):** >5,000 mg/kg (low toxicity)

**ACUTE ORAL EFFECTS**

**ORAL LD50 (rat):** 12,000 mg/kg (low toxicity)

**ACUTE INHALATION EFFECTS**

**INHALATION LC50 (rat-6hrs.):** >4.0 mg/l, the highest attainable dust concentration. No mortality or toxicity was observed in rats exposed to this maximum dose. The equivalent LC50 (1hr) is: > 16 mg/l (Transportation)

*The studies below were carried out with bendiocarb technical (96%), the active ingredient. NOTE: FICAM D contains only 1% bendiocarb.*

**SUBCHRONIC (TARGET ORGAN EFFECTS)**

Results from 90-day animal studies suggest no target organ effects are likely under the conditions of normal handling and use.

**CHRONIC (CANCER INFORMATION)**

In two year feeding studies with bendiocarb in animals, no clinical signs or mortalities related to treatment were observed in rats and dogs at dose levels up to 200 ppm and 500 ppm, respectively; the effects observed at the highest dose were reduced blood cholinesterase level in rats and lower blood and brain cholinesterase levels in dogs. Similarly, bendiocarb administered chronically to mice at dietary dose levels up to 1250 ppm showed only an effect in increased testes weight at the highest dose.

**CARCINOGENICITY:** NTP: No IARC: No OSHA: No

**TERATOGENICITY (BIRTH DEFECTS)**

No evidence of teratogenic effects of Bendiocarb was observed in offspring of rats and rabbits fed during gestation dose levels up to 4 mg/kg/day and 5 mg/kg/day, respectively.

**REPRODUCTIVE EFFECTS**

Bendiocarb showed no adverse effects on fertility or reproduction in rats fed dietary levels up to 800 ppm prior to mating and during gestation.

**NEUROTOXICITY**

No evidence of neurological lesions or irreversible or delayed neurotoxic

effects were observed when bendiocarb was administered to hens by single doses up to 757 mg/kg.

**11. TOXICOLOGICAL INFORMATION - Continued****MUTAGENICITY (GENETIC EFFECTS)**

Bendiocarb is not mutagenic or genotoxic when tested in Ames gene mutation assay and in four other mutagenesis assays of bacteria, yeast, and rodents. In an in vitro analysis of metaphase chromosomes from human lymphocyte cell cultures, a positive result was observed only in the presence of metabolic activation. However, an in vivo analysis of metaphase chromosomes of bone marrow cells did not show any evidence of chromosomal damages, both in the absence or presence of metabolic activation. It is concluded from the results of these mutagenesis studies that bendiocarb does not damage chromosomes in humans and animals under normal conditions of use.

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL INFORMATION**

This pesticide is toxic to fish and wildlife. For terrestrial uses, DO NOT apply directly to water or where surface water is present or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwaters.

**TOXICITY TO BENEFICIAL MICROORGANISMS**

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. DO NOT apply this product, or allow it to drift, to blooming crops or weeds if bees are visiting the treatment area.

**ENVIRONMENTAL FATE INFORMATION**

Bendiocarb technical, the active ingredient of Ficam D, breaks down readily in the natural environment, especially under alkaline conditions.

**13. DISPOSAL CONSIDERATIONS**

**PESTICIDE DISPOSAL:** DO NOT contaminate water, food or feed by storage or disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Must ensure that waste disposal is in compliance with Federal (RCRA), State and local requirements.

**CONTAINER DISPOSAL:**

- Fiber Drum - Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.
- Poly Tub - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**RCRA INFORMATION**

RCRA hazardous waste ingredient: None

**14. TRANSPORT INFORMATION****PROPER SHIPPING NAME:** None**DOT SHIPPING LABEL:** None**FREIGHT CLASSIFICATION:** Insecticides, other than Agricultural, Dry, N.O.I.**15. REGULATORY INFORMATION****U.S. FEDERAL REGULATORY INFORMATION****TSCA:** Exempt from TSCA; a Registered Pesticide Under FIFRA.**SARA TITLE III:****Section 302 (EHS) ingredient:** Not listed**Section 304 (CERCLA & EHS) ingredients (RQ):**  
Not listed**SARA TITLE III NOTIFICATIONS AND INFORMATION****SARA TITLE III - HAZARD CLASSES:**

Acute Health Hazard - "Yes"

Chronic Health Hazard - "No"

Fire Hazard - "No"

Sudden Release of Pressure Hazard - "No"

Reactivity Hazard - "No"

**SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

**CAS NUMBER:** 22781-23-3**INGREDIENT NAME :** Bendiocarb**PERCENT BY WEIGHT:** 1

This information must be included on all MSDSs that are copied and distributed for this material.

**U.S. STATE REGULATORY INFORMATION****STATE RIGHT-TO-KNOW (RTK) HAZARDOUS SUB-****STANCES:** Bendiocarb and crystalline silica are listed as RTK substances by several state regulations (NJ., PA., or MA).**CANADIAN REGULATORY INFORMATION**

This product is a registered pesticide under US-FIFRA regulations and is therefore exempted from WHMIS classifications. The data from toxicity studies also indicate that this product is not a Controlled Product under the WHMIS toxicity classification criteria.

**16. OTHER INFORMATION****HMIS HAZARD RATING**

- **HEALTH:** 1 Slight  
- **FIRE:** 1 Slight  
- **REACTIVITY:** 0 Negligible  
- **PPE:** E

**NFPA HAZARD RATING**

- **HEALTH:** 1 Slight  
- **FIRE:** 1 Slight  
- **REACTIVITY:** 0 Negligible  
- **Spec. Haz.:** Non

**MSDS IDENTIFICATION CODE/NUMBER:** F21402**PREPARED BY:** Dept. of Regulatory Affairs**PHONE:** (302)892-3000**SUPERCEDES MSDS DATED:** 02/20/96**DATE AND TIME OF PRINTING:** 09/21/98 10:24:15**REVISION INDICATOR:** A revised MSDS for the new basic formulation. Revisions were made in Sections 2, 3, 9, 13 & 16.**DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES**

THIS INFORMATION IS PROVIDED IN GOOD FAITH BUT WITHOUT EXPRESSED OR IMPLIED WARRANTY