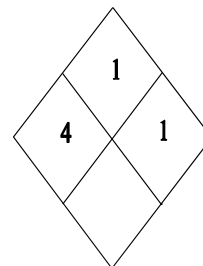


MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BOLSTER® 15G SMARTBOX®
GENERAL USE: Carbamate Pesticide
PRODUCT DESCRIPTION: Dark Brown to Black Granule
EPA Registration Number: Pending Subregistration
MSDS No.: 313_2D1
Current Revision Date: 17 November, 2004 (Draft 1)



MANUFACTURER:
AMVAC CHEMICAL CORPORATION
4100 E. Washington Blvd.
Los Angeles, CA 90023-4406
Ph: 323-264-3910
FAX: 323-268-1028

EMERGENCY TELEPHONE NUMBERS:
MANUFACTURER: 323-264-3910
TRANSPORTATION (24 HOURS)
CHEMTREC: 800-424-9300
OTHER (24 HOURS)
AMVAC: 323-264-3910

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	WT %	TWA/PEL	CAS No.
Aldicarb	15.0%	0.07 mg/m ³	116-06-3
Gypsum	82.0%	5 mg/m ³	13397-24-5
Dichloromethane	0.3%	125 ppm	75-09-2
Other Compounds (Trade Secret)	2.7%	None	

BOLSTER and SMARTBOX are registered trademarks of AMVAC Chemical Corporation.

3. **HAZARDS IDENTIFICATION**

EMERGENCY OVERVIEW:

DANGER! POISON! Fatal if swallowed. May be fatal or harmful by skin or eye contact or by breathing dust. Rapidly absorbed through skin or eyes.

KEEP OUT OF REACH OF CHILDREN.

Toxic to fish and aquatic organisms.

POTENTIAL HEALTH EFFECTS

ROUTE(S) OF ENTRY: Ingestion, inhalation, eye contact, and skin contact.

SIGNS OF ACUTE OVEREXPOSURE:

Eye: May cause redness, irritation, tearing. May be absorbed through the eye and produce symptoms similar to those from ingestion.

Skin: Harmful or fatal if absorbed through the skin. May produce symptoms similar to those from ingestion.

Ingestion: May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions. If left untreated, death may result.

Inhalation: May be fatal or harmful if inhaled. May produce symptoms similar to those from ingestion.

SIGNS OF CHRONIC or DELAYED LONG-TERM EXPOSURE: This product contains ingredients that are considered to be probable or suspected human carcinogens (See Section 11 - Toxicological Information).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

CARE SHOULD BE EXERCISED IN HANDLING ALDICARB AND ITS FORMULATIONS.

4. FIRST AID MEASURES

ALDICARB (BOLSTER®) IS A SEVERE CHOLINESTERASE INHIBITOR. A PHYSICIAN SHOULD BE CONTACTED IN ALL CASES OF EXPOSURE TO BOLSTER®!

CAUTION: Persons attending victim should avoid direct contact with heavily contaminated clothing or vomitus. Chemical resistant gloves should be worn by the emergency responder or medical personnel while washing the pesticide from skin and hair of the exposed victim.

EYES: Immediately flush the eyes with copious amounts of clear, cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Contact a physician immediately. If there will be a delay in getting medical attention, rinse the eyes for at least another 15 minutes.

INHALATION: Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start artificial respiration, preferably mouth-to-mouth, taking care not to contaminate the rescuer. If breathing is difficult, give oxygen. Contact a physician immediately.

INGESTION: Induce vomiting immediately by giving two glasses of water and sticking a finger down throat. Never give anything by mouth to an unconscious person. Contact a physician immediately. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

SKIN: Remove contaminated clothing. Wash thoroughly with soap and clean water. If a rash or any of the symptoms of acute exposure appear, contact a physician immediately.

NOTE TO PHYSICIANS: All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials in addition to this product may have occurred.

This product contains an oxime carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible.

Specific treatment consists of parenteral atropine sulfate. Improve tissue oxygenation as much as possible before administering atropine to minimize the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced.

Complete recovery from overexposure is to be expected within 24 hours. To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Call 323-264-3910 before sending samples. Analysis will be arranged by AMVAC Chemical Corp.

4. FIRST AID MEASURES, cont'd

Persons regularly exposed in manufacturing and handling this product should have a preexposure and periodic red blood cell cholinesterase level checks. Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended unless exposure to an organophosphate is also likely.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point: Not applicable

Autoignition Temperature: Not applicable

Flammable Limits:

Lower flammable limit: None

Upper flammable limit: None

Flammability: This is a solid product that contains approximately 15% of a combustible solid that will support fire if it is preheated (NFPA rating = 1)

EXPLOSIVITY:

Mechanical Impact: Not explosive

Static Discharge: Will not occur

HAZARDOUS COMBUSTION PRODUCTS: This product may emit hazardous fumes of hydrogen chloride, carbon oxides, nitrogen oxides and unidentified organic compounds when it is heated excessively or burned. **WEAR SELF-CONTAINED BREATHING APPARATUS.**

EXTINGUISHING MEDIA: Dry chemical, foam, or carbon dioxide.

FIRE FIGHTING INSTRUCTIONS: Keep unnecessary people away, isolate hazard area and deny entry. Do not breathe fumes. Wear full protective gear, including protective gloves, eye protection and self-contained breathing apparatus. Wash clothing before reuse.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Evacuate and isolate spill area. Exclude all except properly equipped emergency personnel.

SPILL or LEAK: Shovel or vacuum the product into a secure container for reuse or disposal. Avoid creation of dusty conditions. Decontaminate tools and equipment following cleanup.

6. ACCIDENTAL RELEASE MEASURES, cont'd

ENVIRONMENTAL and REGULATORY REPORTING: do not flush to drain. If spilled on the ground, the affected area should be scraped clean and the scrapings placed into an appropriate container for disposal. Prevent spilled material from entering public sewer system or any waterway. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies (See Section 15).

7. HANDLING AND STORAGE

HANDLING: Keep this product cool and dry. Keep container closed. Keep away from children and pets. Do not get on skin or in eyes. Do not breathe dusts. Do not ingest. Wash thoroughly after handling this product. Dry powders can build static electricity charges when subjected to the friction of conveying, mixing or sliding. Provide adequate precautions, such as electrical grounding, or inert atmospheres when material is used in the presence of flammable materials to prevent ignition.

STORAGE: Store product in its original container in a cool, dry, locked place out of the reach of children and domestic animals. Store in an area away from food, feedstuffs, fertilizers and seed. Store at temperatures below 46°C (115°F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation at the point of generation is recommended when the potential for excessive exposure exists.

RESPIRATORY PROTECTION: A properly FIT-TESTED NIOSH/MSHA-approved respirator fitted with organic vapor cartridges and dust filters is required when working with this product if the ventilation is insufficient to keep exposures below the TLV. Under emergency conditions or conditions immediately hazardous to life or health, a full-face positive pressure air-supplied respirator or self-contained breathing apparatus should be used.

SKIN PROTECTION: Applicators and other handlers must wear long-sleeved shirt and long pants; waterproof gloves; and shoes plus socks. Additional, more protective clothing impervious to this product may be required when contact is likely. Follow manufacturer's instructions for cleaning/ maintaining personal protection equipment (PPE). If no such instructions are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

EYE PROTECTION: Safety glasses with sideshields should be used whenever hazardous chemicals are being handled. If there is a chance of facial contact, splash goggles and a face shield should be used.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION, cont'd**

GENERAL PROTECTION: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: disposal considerations.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

Physical State:	Solid
Appearance:	Dark brown to black granule
Odor:	Sulfur-like odor
Odor Threshold:	Not established
Boiling Point:	Not applicable
Freezing/melting Point:	Not applicable
Bulk Density:	72 lb/ft ³
Vapor Pressure (mm/Hg):	Not applicable
Percent Volatile by Vol:	Not applicable
Solubility in Water:	Slightly soluble
Solubility (Other):	The active ingredient is soluble in Dichloromethane and Acetone
Partition Coefficient (O/W):	Not available
pH:	6 - 7 @ 1% (w/w)
Evaporation Rate:	Not applicable

10. **STABILITY AND REACTIVITY**

CHEMICAL STABILITY (Conditions to avoid): This product is stable under normal storage and use conditions. Avoid dusting conditions and extreme heat.

INCOMPATIBILITY: Strong Bases

HAZARDOUS DECOMPOSITION PRODUCTS: This product may emit hazardous fumes of aldicarb nitrile, aldicarb oxime, sulfur oxides, methylamine, carbon oxides, nitrogen oxides and unidentified organic compounds when it is heated excessively or burned. **WEAR SELF-CONTAINED BREATHING APPARATUS** when these conditions are present.

HAZARDOUS POLYMERIZATION: This product will not polymerize.

11. TOXICOLOGICAL INFORMATION

Limited information is available for the formulation, so part of the information below is for the active ingredient, Aldicarb technical, and is marked by (ai).

INGESTION:	Oral LD ₅₀ (rabbit):	5.29 mg/kg
DERMAL:	Skin LD ₅₀ (rat):	283 mg/kg
INHALATION:	Inhalation LC ₅₀ (rat):	No test data found for product or active ingredient.
IRRITATION:	Eye irritation(rabbit):	Slightly irritating to the eye (ai)
	Skin irritation: (rabbit)	Nonirritating to the skin(ai)
SENSITIZATION:	Skin sensitization (guinea pig)	Does not produce a sensitization response (ai)

TERATOGENICITY: There is no evidence of teratogenicity following aldicarb technical material administration to either the rat or the rabbit in developmental studies.

MUTAGENICITY: The weight of evidence from both in vitro and in vivo studies indicates that aldicarb technical material is not genotoxic.

CARCINOGENICITY: There were no carcinogenic effects related to the administration of aldicarb technical material fed to mice for 18 months at up to 0.7 mg/kg/day or to rats for two years at up to 1.87 mg/kg/day. Dichloromethane has been shown to increase the rate of spontaneously occurring malignant tumors in a particular strain of mice and benign tumors in laboratory rats. In other animal toxicology studies and in human epidemiologic studies, dichloromethane failed to show a tumorigenic response. ACGIH has assigned Dichloromethane to Group A3, while IARC has assigned Dichloromethane to group 2B. In addition, IARC has assigned Aldicarb to group 3.

REPRODUCTIVE TOXICITY: There were no effects on reproductive performance following aldicarb technical administration to rats. The maternal and fetal no effect level was established at 10 ppm due to effects on maternal body weight, pup weight and viability.

NEUROTOXICITY: Studies in the rat have shown cholinergic signs of toxicity with the time of maximal effect between 0.5 to 2 hours after dosing. These effects were mainly transient in nature (ai).

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: No data available.

12. ECOLOGICAL INFORMATION

This pesticide is toxic to fish and aquatic organisms. Cover or incorporate granules. Do not contaminate water when disposing of equipment washwaters. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply directly adjacent to potable water supplies.

For chemical fate information call the product information phone number listed in Section 1.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed on site (by use according to the label) or at an approved waste disposal facility. Further information can be obtained from the EPA or the equivalent state and local agencies.

CONTAINER DISPOSAL: Empty SMARTBOX containers should be returned to your local distributor.

14. TRANSPORTATION INFORMATION

Proper Shipping Name(s): Carbamate Pesticides, Solid, Toxic, 6.1, UN 2757, PG II, RQ (Aldicarb)

PACKAGING

General Description: 50 lb SMARTBOX® containers

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This product is pending subregistration under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

SARA TITLE III DATA

Section 311 & 312 Hazard Categories:

Immediate Health Hazard:	Yes
Delayed Health Hazard:	Yes
Fire Hazard:	No
Reactive Hazard:	No
Sudden Pressure Release Hazard:	No

Section 302 Extremely Hazardous Substances: Aldicarb (116-06-3)

Section 313 Toxic Chemicals:

Aldicarb (116-06-3)	15.0%
Dichloromethane (75-09-2)	0.3%

CERCLA/EPCRA Reportable Quantities (RQ):

Aldicarb (116-06-3)	1 lb
Dichloromethane (75-09-2)	1000 lbs

15. REGULATORY INFORMATION, cont'd

STATE REGULATIONS:

CALIFORNIA (Proposition 65): This product contains small amounts of Dichloromethane, a chemical known to the State of California to cause cancer.

16. OTHER INFORMATION

MSDS Status:

Date This Revision: 16 December, 2004

Date Previous Revision: 7 August 2003

Person Responsible for Preparation: Gary A. Braden

Reasons for Revision: Annual Review. Registration information in sections 1 and 15 has been updated.

DISCLAIMER: This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

ABBREVIATIONS:

ACGIH	-	American Conference of Governmental Industrial Hygienists
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	-	Department of Transportation
EPA	-	Environmental Protection Agency
EPCRA	-	Emergency Planning and Community Right-to-Know Act
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
IARC	-	International Agency for Research on Cancer
IATA	-	International Air Transport Association
IMDG	-	International Maritime Dangerous Goods
NTP	-	National Toxicology Program
OSHA	-	Occupational Safety and Health Agency
SARA	-	Superfund Amendments and Reauthorization Act
TSCA	-	Toxic Substances Control Act

This is the last page of this MSDS. There should be 9 pages.