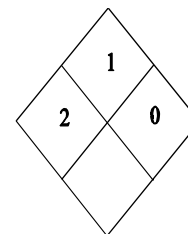


## MATERIAL SAFETY DATA SHEET

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**



**PRODUCT NAME:** FORCE® 3G  
**GENERAL USE:** Pyrethroid type insecticide  
**PRODUCT DESCRIPTION:** Tan, solid granule with a slightly musty odor  
**MOLECULAR FORMULA of ACTIVE INGREDIENT:** C<sub>17</sub>H<sub>14</sub>ClF<sub>7</sub>O<sub>2</sub> (Tefluthrin)  
**EPA Registration Number:** 100-1075-5481  
**MSDS No.:** 321\_2  
**Current Revision Date:** 23 January, 2006

**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**

<b>Chemical Name</b>	Tefluthrin; (2,3,5,6-Tetrafluoro-4-methylphenyl)methyl-(1a,3a)-(Z)-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl cyclopropanecarboxylate	Crystalline silica, quartz	Clay Granules
<b>CAS #</b>	79538-32-2	14808-60-7	
<b>Wt%</b>	3.0%	trace	available on request
<b>Hazard(s)</b>	None known	Silicosis	Lung Irritant
<b>PEL/TLV OSHA</b>	None	0.1 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> total 5 mg/m <sup>3</sup> respirable
<b>ACGIH</b>	None	0.05 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> total 3 mg/m <sup>3</sup> respirable

FORCE is a registered trademark of Syngenta Crop Protection, Inc.  
 SMARTBOX is a trademark of AMVAC Chemical Corporation..

### 3. HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW:

**CAUTION! Causes eye irritation. Causes skin irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing dust. Use with adequate ventilation. Do not contaminate feed or foodstuffs.**

**KEEP OUT OF REACH OF CHILDREN.**

**Highly Toxic to fish and aquatic organisms. Keep out of bodies of water.**

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#### POTENTIAL HEALTH EFFECTS

**ROUTE(S) OF ENTRY:** Typical routes of exposure are swallowing, inhalation, or coming into contact with the skin.

**SIGNS OF ACUTE OVEREXPOSURE:** Harmful if inhaled or swallowed. Dust, mist or vapor are potentially irritating to eyes and respiratory tract. May cause skin irritation. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

**SIGNS OF CHRONIC OVEREXPOSURE:** Same as acute.

**OTHER POTENTIAL HEALTH EFFECTS:** Tefluthrin is not considered to be carcinogenic. Prolonged inhalation of clay dust may lead to lung injury. Respirable crystalline silica is listed as being carcinogenic by both IARC and NTP. Also, chronic inhalation of crystalline silica may lead to silicosis and pulmonary fibrosis in humans. Crystalline silica is present at less than 0.01% in the product.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** None presently known.

**CARE SHOULD BE EXERCISED IN HANDLING THIS PRODUCT.**

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### 4. FIRST AID MEASURES

**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 if irritation occurs and persists.

#### **4. FIRST AID MEASURES, cont'd**

**INHALATION:** Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Contact a physician immediately.

**INGESTION:** Do not induce vomiting unless told to do so after consulting a doctor or a poison control center. Never give anything by mouth to an unconscious person. Contact a physician immediately.

**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:** Although this product has a low toxicity if swallowed and has low dermal toxicity. Tefluthrin technical is moderately toxic if swallowed. This product may be slightly irritating to the skin and practically non-irritating to the eyes. Gastric lavage using an endotracheal tube may be preferred to vomiting. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care. Contact your local poison control center for more medical information.

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#### **5. FIRE FIGHTING MEASURES**

##### **FLAMMABLE PROPERTIES:**

Flash Point: Not applicable (solid formulation)

Autoignition Temperature: Not determined

Flammable Limits:

Lower flammable limit: Not determined

Upper flammable limit: Not determined

##### **EXPLOSIVITY:**

Mechanical Impact: Not expected to be explosive under mechanical impact conditions.

Static Discharge: Not expected to be explosive.

**HAZARDOUS COMBUSTION PRODUCTS:** Slightly combustible, and may support combustion at elevated temperatures. This product may emit hazardous fumes of hydrogen chloride, hydrogen fluoride, carbon oxides, and unidentified organic compounds when it is heated excessively or burned. **WEAR SELF-CONTAINED BREATHING APPARATUS.**

**EXTINGUISHING MEDIA:** Water spray, dry chemical, foam, or carbon dioxide.

**FIRE FIGHTING INSTRUCTIONS:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated. Wash all protective clothing and equipment thoroughly after exposure.

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## 6. ACCIDENTAL RELEASE MEASURES

**GENERAL:** Thoroughly ventilate area. Wear personal protective equipment and clothing as listed in Section 8. Keep unauthorized personnel out of the area.

**SMALL SPILL:** Isolate area to prevent contamination of water bodies. Sweep or vacuum into covered containers, taking care not to create dusting conditions. Clean area first with an alcoholic caustic or soda ash solution, then follow with soap and water. The cleaning solutions are also hazardous wastes.

**LARGE SPILL:** Dike or otherwise isolate the spill area to prevent contamination of water bodies. Sweep or vacuum the spilled solids into a closed container, taking care not to create dusting conditions. Use the recovered material according to label directions or discard as a hazardous waste. If water is used to aid in the cleanup, absorb any liquid on clay, sand, etc. and place absorbed liquid into a hazardous waste container. Clean the spill area first with an alcoholic caustic or soda ash solution, then follow with soap and water. The cleaning solutions are also hazardous wastes.

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## 7. HANDLING AND STORAGE

**HANDLING:** Keep this product cool and dry. Keep container closed. Store away from feed, food, and drink. Keep away from children and pets. Wash thoroughly after handling this product. Make certain containers are grounded to prevent static buildup and discharge.

**STORAGE:** Store product in its original container in a cool, dry, locked place out of the reach of children. Store away from sources of heat and ignition.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** General air replacement or dilution ventilation is sufficient for material handling and storage, but local ventilation should be used when removing this product from containers. Ventilate all transport vehicles prior to unloading.

**RESPIRATORY PROTECTION:** A properly FIT-TESTED NIOSH/MSHA-approved respirator fitted with organic vapor cartridges with a prefilter approved for pesticides is required for exposures in enclosed areas that cannot be controlled by local ventilation measures. For uncontrolled excessive exposures outdoors, a NIOSH/MSHA-approved dust/mist filtering respirator is required.

**SKIN PROTECTION:** Applicators and other handlers must wear long-sleeved shirt and long pants; waterproof gloves (such as rubber, neoprene or PVC); and shoes plus socks. 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.

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

**EYE PROTECTION:** Safety glasses with side shields should be used whenever hazardous chemicals are being handled. Goggles or full face shield should be used if there is a potential for dust generation.

**OTHER PROTECTION:** An eyewash station and a safety shower should be located in the work area.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Solid
<b>Appearance:</b>	Tan-brown solid granules
<b>Odor:</b>	Slight musty odor
<b>Odor Threshold:</b>	None established
<b>Boiling Point:</b>	Not available
<b>Freezing/Melting Point:</b>	Not applicable
<b>Density:</b>	38 - 45 lb/ft <sup>3</sup> (untamped)
<b>Vapor Pressure (mm/Hg):</b>	6.5 x 10 <sup>-5</sup> @ 20°C (ai)
<b>Vapor Density:</b>	Heavier than air
<b>Percent Volatile by Vol:</b>	Not applicable
<b>Solubility in Water:</b>	Not appreciably soluble in water
<b>Solubility (Other):</b>	The active ingredient is soluble in aromatic solvents
<b>Partition Coefficient (Log P<sub>ow</sub>):</b>	Not available
<b>pH (1% in water):</b>	5.3
<b>Evaporation Rate:</b>	Not available

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## 10. STABILITY AND REACTIVITY

**CHEMICAL STABILITY (Conditions to avoid):** This product is stable under normal storage and use conditions.

**INCOMPATIBILITY:** Avoid excessive heat and flame.

**HAZARDOUS DECOMPOSITION PRODUCTS:** This product may emit hazardous fumes of hydrogen chloride, hydrogen fluoride, carbon 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.

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## 11. TOXICOLOGICAL INFORMATION

The information listed below are either for this formulation (f) or for the active ingredient (ai).

<b>INGESTION:</b>	Oral LD <sub>50</sub> (rat):	969 mg/kg (f)
<b>DERMAL:</b>	Skin LD <sub>50</sub> (rabbit):	> 2000 mg/kg (f)
<b>INHALATION:</b>	Inhalation LC <sub>50</sub> (rat):	1.77 mg/l (4 hr, dust)
<b>IRRITATION:</b>	Eye irritation: (Rabbit)	slightly irritating (f)
	Skin irritation: (rabbit)	Not available (f)

**SENSITIZATION:** Skin sensitization: Mild skin sensitizer (f)

**TERATOGENICITY:** In studies with animals, Tefluthrin did not cause teratogenicity (ai).

**MUTAGENICITY:** Tests with Tefluthrin have shown an absence of genotoxicity (ai).

**CHRONIC/SUBCHRONIC TOXICITY:** In 90-day and 1 year studies in dogs, elicited ataxia or tremors at the highest doses tested (1.5 and 2.0 mg/kg/d respectively)(ai).

**CARCINOGENICITY:** Tefluthrin is not considered to be carcinogenic (ai). Respirable crystalline silica is listed as being carcinogenic by both IARC and NTP. It is present at less than 0.01% in the product.

**REPRODUCTIVE TOXICITY:** No evidence in rat or rabbit (ai).

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** No information is available (ai).

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## 12. ECOLOGICAL INFORMATION

**GENERAL:** This pesticide is highly toxic to fish and aquatic organisms. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. 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 contaminate water when disposing of equipment washwaters. Do not apply directly adjacent to potable water supplies.

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## 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

**CONTAINER DISPOSAL:** Do not discard "SMARTBOX™" container. All "SMARTBOX™" containers must be returned to the place where they were purchased. Contact AMVAC Customer Service (323-264-3910) for instructions in the event any difficulty in return of the "SMARTBOX™" is experienced. Do not attempt to open or tamper with the "SMARTBOX™". Once empty, the "SMARTBOX™" is not intended for reuse by the user.

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## 14. TRANSPORTATION INFORMATION

**GENERAL:** This product is not regulated when shipped by highway, railroad or air in packages < 119 gallons (450 L) in volume. When this product is shipped in bulk or is shipped by water (non-bulk or bulk) or is shipped internationally, it is regulated according to the data listed below:

<b>DOT Class:</b>	9
<b>UN Number:</b>	UN3077
<b>IMDG Class (sea):</b>	9
<b>IATA Class:</b>	9
<b>Marine Pollutant:</b>	Yes (Tefluthrin = marine pollutant)
<b>Packing Group:</b>	III
<b>Hazard Label(s):</b>	Environmentally Hazardous
<b>Proper Shipping Name(s):</b>	Environmentally hazardous substances, solid, n.o.s. (Tefluthrin, 3%)
<b>Reportable Quantity:</b>	None
<b>US Surface Freight Class:</b>	Insecticides, NOI, Poison other than Poison

### PACKAGING

**General Description:** 50 lb "SMARTBOX™"

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## 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:** This product is not currently registered under EPA/FIFRA Regulations. However, as a research pesticide 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:** None

**Section 313 Toxic Chemicals:** None

**CERCLA Reportable Quantities (RQ):** Not listed

### **STATE REGULATIONS:**

**CALIFORNIA (Proposition 65):** This product may contain trace amounts of respirable crystalline silica, known to the State of California to cause cancer.

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**16. OTHER INFORMATION**

**MSDS Status:**

**Date This Revision: 23 January, 2006**

**Date Previous Revision: 25 March 2004**

**Person Responsible for Preparation: Gary A. Braden**

**Reasons for Revision:** Annual Review. Information was updated in sections 8 and 11 to better reflect current knowledge of this product and its hazards.

**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 the users' 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:**

ai	-	active ingredient
ACGIH	-	American Conference of Governmental Industrial Hygienists
BEI	-	Biological Exposure Index
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	-	Environmental Protection Agency
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
IARC	-	International Agency for Research on Cancer
NTP	-	National Toxicology Program
OSHA	-	Occupational Safety and Health Agency
SARA	-	Superfund Amendments and Reauthorization Act
TSCA	-	Toxic Substances Control Act

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This is the last page of this MSDS. There should be 8 pages.