

MATERIAL SAFETY DATA SHEET

Adjourn®

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name: **Adjourn®**  
 Chemical name of active ingredient(s): Esfenvalerate(8.4%): (s)-cyano(3-phenoxyphenyl)methyl(s)-4-chloro-alpha-(1-methylethyl)benzeneacetate  
 Registrant:/Manufacturer: Makhteshim Agan of North America, Inc.  
 4515 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27609  
 Phone: 919-256-9300  
 For fire, spill, and/or leak emergencies, contact Phone: 1-800-535-5053  
 Infotrac:  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	CAS NO.	%	OSHA PEL	ACIGH TLV	OTHER 2 mg/m3 (TWA)	NTP/IARC/OSHA (Carcinogen)
Esfenvalerate	66230-04-4	8.4	NE	NE		NA
Inert Ingredients		91.6				
(Includes percentages of the following:)						
Xylene	1330-20-7	12	100 ppm (435 mg/m <sup>3</sup> ) (TWA)	100 ppm (TWA) 150 ppm (STEL)	100 ppm (TWA)	NA
Ethylbenzene	100-41-4	<1	100p pm (435 mg/m <sup>3</sup> ) (TWA)	100 ppm (TWA) 125 ppm (STEL)	25 ppm (TWA)	2* A3**

NE=Not Established. NA=Not Available.

\*IARC – 2B: The agent is possibly carcinogenic to humans. The exposure circumstance entails exposures that are possibly carcinogenic to humans.

\*\*ACGIH – A3 : This agent is confirmed animal carcinogen with unknown relevance to humans.

**3. HAZARDS IDENTIFICATION**

**PHYSICAL PROPERTIES**

Appearance: Straw to light amber liquid

Odor: Oily/aromatic

**EMERGENCY OVERVIEW:** WARNING. May be fatal if swallowed. Harmful if inhaled. Do not get in eyes, on skins, or on clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**POTENTIAL HEALTH EFFECTS:**

**Eye:** May cause eye irritation with tearing, pain or blurred vision.

**Skin:** Contact with Esfenvalerate may cause a transient (several minutes up to approximately 24 hours) persistent burning or prickling sensation which may be accompanied by visible irritation or rash. Animal data suggests that at high doses, Esfenvalerate may be absorbed through the skin in amounts capable of causing toxic effects.

**Ingestion:** Ingestion of Esfenvalerate may cause nonspecific discomfort, such as nausea, vomiting, headache, or weakness; temporary nervous system effects such as muscular weakness, tremors and incoordination.

Due to physical nature of Esfenvalerate, significant exposure to vapor is not anticipated. However, the compound may be harmful if inhaled and may product acute transient nervous system effects at high doses.

Individuals with preexisting disease of the liver, kidney, skin or peripheral nervous system may have increased susceptibility to the toxicity of excessive exposure.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen cyanide may be formed by thermal decomposition or reaction with alkaline materials.

#### 4. FIRST AID MEASURES

##### FIRST AID

- IF SWALLOWED:**
- Call a poison control center or doctor immediately for treatment advice.
  - Do not give any liquid to the person.
  - Do not induce vomiting unless told to do so by a poison control center or doctor.
  - Do not give anything by mouth to an unconscious person.
- IF INHALED:**
- Move person to fresh air.
  - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
  - Call a poison control center or doctor for further treatment advice.
- IF IN EYES:**
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
  - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
  - Call a poison control center or doctor for treatment advice.
- IF ON SKIN OR CLOTHING:**
- Take off contaminated clothing.
  - Rinse skin immediately with plenty of water for 15-20 minutes.
  - Call a poison control center or doctor for treatment advice.

**Have the product container or label with you when calling a poison control center or doctor or going for treatment.**

**You may also contact 1-877-250-9291 for emergency medical treatment information.**

**NOTE TO PHYSICIAN:** If on skin, after drying apply Vitamin E cream or oil if available. If not available, apply vegetable oil liberally over painful areas. The oil or cream may be used repeatedly until relief is achieved.

Contains xylene range aromatic solvent – vomiting may cause aspiration pneumonia.

#### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 66°C(151°F)(TCC)

**EXTINGUISHING MEDIA:** Water spray, water fog, dry chemical, CO<sub>2</sub>.

**FIRE/EXPLOSION HAZARDS:** Combustible. Heating can release vapors which can be ignited.

Hazardous gases/vapors produced in fire are toxic and may include hydrogen cyanide.

**FIRE FIGHTING PROCEDURES:** Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment. Use water spray. Cool tank/containers with water spray.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen cyanide may be formed by thermal decomposition or reaction with alkaline materials.

#### 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS:** Review Fire Fighting Measures and Handling (Personnel) sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up.

**SPILL CLEAN-UP:** In case of spill or leak, soak up with sand, earth or synthetic absorbent (do not use alkaline absorbents) and dispose of wastes in compliance with local, State and Federal regulations.

**ACTION TO TAKE FOR SPILLS/LEAKS: CAUTION – COMBUSTIBLE!**

**LARGE SPILLS :** Eliminate potential source of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material, place in non-leaking containers and seal tightly for proper disposal. Flush area with water to remove trace residue, dispose of flush solution as above.

**SMALL SPILLS :** Take up with absorbent material and place in non-leaking containers for proper disposal. Do not use alkaline absorbent.

## 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Wash clothing after use. Discard shoes if contaminated. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Do not contaminate water, food, or feed by storage. Store in a secure, dry and temperate area. Store in original container. Keep container closed when not in use. Do not store near food or feed. Do not use or store around the home. Avoid contact with water. In case of spill or leak, soak up with sand, earth or synthetic absorbent (do not use alkaline absorbents) and dispose of wastes in compliance with local, State and Federal regulations.

**STORAGE TEMPERATURE (MIN/MAX):** Stable at normal temperatures and storage conditions.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, AND PACKAGING OF THIS PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

**EYE PROTECTION:** Protective eyewear.

**SKIN PROTECTION:** Coveralls over short-sleeved shirt and short pants, shoes plus socks.

**HAND PROTECTION:** Chemical-resistant gloves, such as Barrier Laminate or Neoprene Rubber or Nitrile Rubber or Viton.

**ADDITIONAL PROTECTIVE MEASURES:** Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**EXPOSURE GUIDELINES:** Refer to Section 2.

### ENGINEERING CONTROLS:

Use only with adequate ventilation. Keep container tightly closed. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. Use explosion-proof ventilation as required to control vapor concentrations. Keep liquid and vapor away from heat, sparks or flame. Surfaces that are sufficiently hot may ignite liquid product even in the absence of sparks or flame. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapors are gone. Do not cut, drill, grind or weld on or near container: even emptied containers can contain explosive vapors.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Appearance: Straw to light amber liquid

Odor: Oily/aromatic

**FLASH POINT:** 66°C(151°F)(TCC)

**pH:** 5.14 (1% V emulsion in Type 1 reagent water)

**DENSITY:** 7.9 lb/gal @ 20°C (68°F)

## 10. STABILITY AND REACTIVITY

**MATERIALS AND CONDITIONS TO AVOID:** Avoid heat, flame and contact with strong oxidizing.

**STABILITY:** Stable at normal temperature and storage conditions.

**POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen cyanide may be formed by thermal decomposition or reaction with alkaline materials.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY/IRRITATION STUDIES:

Acute Oral LD50:	458 mg/kg (male rats)
Acute Dermal LD50:	>2,000 mg/kg(rabbits)
Acute Inhalation LC50:	2.93 mg/L (4-hr)(rats)
Eye Irritation:	Slightly irritating.
Dermal Irritation:	Non-irritating.
Dermal Sensitization:	Not a skin sensitizer

### ESFENVALERATE:

Effects of single dermal exposure include ataxia, tremors, constricted pupils and hind limb incoordination. Dermal exposure of guinea pigs and rabbits to low concentrations of the compound is believed to have resulted in a transient burning sensation in a controlled experiment.

Effects of a single oral dose near the LD50 resulted in nervous system changes including splayed gait, tremors, ataxia, and hind limb incoordination. Repeated doses caused excessive grooming and neurological changes such as limb incoordination, unsteady gait, tremors, convulsions, and nonspecific effects such as weight loss. Tests in animals demonstrate no carcinogenic or developmental toxicity. Reproductive toxicity has not been observed at doses below those causing maternal toxicity. Tests have shown that Esfenvalerate does not cause genetic damage in bacterial or mammalian cell cultures. It does not produce heritable genetic damage.

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL HAZARDS:** This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or when disposing of equipment washwaters.

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

### ECOTOXICOLOGICAL INFORMATION:(ESFENVALERATE)

96 hour LC50 - Bluegill sunfish: 0.26 ug/L.

96 hour LC50 - Rainbow trout: 0.26 ug/L.

96 hour LC50 - Fathead minnows: 0.18 ug/L.

## 13. DISPOSAL CONSIDERATIONS

**END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.**

### PRODUCT DISPOSAL:

Do not contaminate water, food, or feed by disposal. Pesticide wastes are toxic. 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.

