

1. IDENTIFICATION

Product name: **Guthion® Solupak**
 Chemical name of active ingredient(s): Azinphos-methyl: O,O-Dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl) methyl]phosphorodithioate
 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 Infotrac: Phone: 1-800-535-5053
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	%	OSHA/PEL	ACGIH/TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Azinphos-methyl	86-50-0	50	0.2 mg/m ³ (TWA)	0.2 mg/m ³ (TWA)	0.2 mg/m ³ *	NA

NA=Not Applicable
 * US CA OEL TWA/PEL

3. HAZARDS IDENTIFICATION

PHYSICAL PROPERTIES

Appearance: Tan powder
Odor: Sulfur-like

EMERGENCY OVERVIEW: DANGER. Fatal if swallowed. May be fatal if inhaled. Harmful if absorbed through skin. Causes moderate eye irritation. Do not breathe dust or spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash clothing before reuse.

ROUTES OF ENTRY: Ingestion, inhalation, eye contact, skin absorption

IMMEDIATE EFFECTS:

- Eye:** Moderately skin irritation. May produce symptoms similar to those from ingestion.
- Skin:** Causes skin irritation. May produce symptoms similar to those from ingestion. Harmful if absorbed through skin. Avoid contact with skin and clothing.
- Ingestion:** Cause nausea, vomiting, diarrhea, abdominal cramps, excess salivation, pinpoint pupils, blurred vision, profuse sweating, muscle spasms. Fatal if swallowed. Do not take internally.
- Inhalation:** May produce symptoms similar to those from ingestion. May be fatal if inhaled. Do not breathe dust or spray mist.

HAZARDOUS DECOMPOSITION PRODUCTS: In case of fire hazardous decomposition products may be produced such as: hydrogen sulfide, dimethyl sulphide, sulfur dioxide and carbon monoxide.

PHYSICAL AND CHEMICAL HAZARDS: Keep away from open flam. Do not heat.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No specific medical conditions are known which may be aggravated by exposure to this product. Any disease, medication or prior exposure which reduces normal cholinesterase activity may increase susceptibility to the toxic effects of the active ingredient.

4. FIRST AID

FIRST AID	
Contains an organophosphate that inhibits cholinesterase	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • 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 ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes • Call a poison control center or doctor for further treatment advice
IF INHALED:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.	
Note To Physician: ANTIDOTE - Administer atropine sulfate in large therapeutic doses. Repeat as necessary to the point of tolerance. 2-PAM is also antidotal and may be administered in conjunction with atropine. Compound inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system, and the somatic motor nerves. Do not give morphine. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 12 hours. At first sign of pulmonary edema, the patient should be placed in an oxygen tent and treated symptomatically.	

5. FIRE FIGHTING MEASURES

FLASHPOINT: Not Applicable.

FLAMMABLE LIMITS (% in air): Not Applicable.

AUTOIGNITION TEMPERATURE: Not Applicable.

FIRE FIGHTING PROCEDURES: Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated. Firefighter should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE, EXPOSURE AND REACTIVITY HAZARDS: Accumulation of fine dust may entail the risk of a dust explosion in the presence of air. Heating or fire can release toxic gas.

SUITABLE EXTINGUISHING MEDIA: Water, foam, dry chemical, carbon dioxide (CO₂).

HAZARDOUS DECOMPOSITION PRODUCTS: In case of fire hazardous decomposition products may be produced such as: hydrogen sulfide, dimethyl sulphide, sulfur dioxide and carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

ACTION TO TAKE FOR SPILLS/LEAKS: Avoid formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

ADDITIONAL ADVISE: Use personal protective equipment. Do not allow product to enter streams, sewers or other waterways. Do not allow product to contact vegetation.

7. HANDLING AND STORAGE

PESTICIDE STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Do not store below freezing (32° F). Protect from heat. Keep away from open flame. Do not heat. Exposure to moisture or excessive handling of water-soluble packets may cause breakage. Store packets in original container and out of the reach of children, preferably in a locked storage area.

PRECAUTIONS TO BE TAKEN IN HANDLING: Handle and open container in a manner as to prevent spillage. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away.

WORK OR HYGIENIC PROCEDURES: Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Take off contaminated clothing and shoes immediately. Then wash thoroughly and put on clean clothing.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.

STORAGE TEMPERATURE (MIN/MAX): Do not transport or store below 0°C (32°F). 30 day average temperature not to exceed 37.8°C (100°F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATION AND ON-FARM APPLICATIONS, CONSULT THE PRODUCT LABEL.

EYE and FACE PROTECTION: Tightly fitting safety goggles.

HAND PROTECTION: Chemical resistant nitrile rubber gloves.

BODY PROTECTION: Wear long-sleeved shirt and long pants and shoes plus socks.

RESPIRATORY PROTECTION: When respirators are required, select NOISH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

GENERAL PROTECTIVE MEASURES: Follow all label instructions. Train employees in safe use of the product. Follow manufacturer's instructions for cleaning/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 before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EXPOSURE GUIDELINES: Refer to Section 2.

ENGINEERING CONTROLS: Refer to product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Tan powder

ODOR: Sulfur-like

pH: 5.3 (10%)

BULK DENSITY: 12-16 lb./cu. ft. (Fluffed); 21-25 lb./cu. ft. (Packed)

BOIL POINT: The substance decomposes before reaching the boiling point

10. STABILITY AND REACTIVITY

GENERAL: Stable under normal use and storage conditions.

CONDITIONS TO AVOID: Sustained temperatures above 37.8°C (100°F).

INCOMPATIBLE MATERIALS: Strong oxidizing agents and bases.

HAZARDOUS DECOMPOSITION: In case of fire hazardous decomposition products may be produced such as: hydrogen sulfide, dimethyl sulphide, sulfur dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION: Not Applicable.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD₅₀: 12.3 mg/kg (male rat); 24.7 mg/kg (female rat)

Dermal LD₅₀: > 2000 mg/kg (rat)

Inhalation LC₅₀: 0.166 mg/L (male rat); 0.146 mg/L (female rat) (4-hr determined in the form of

dust) (actual)
Eye Irritation Mild irritation (rabbit)
Dermal Irritation Moderate skin irritation (rabbit)
Dermal Sensitization Not a skin sensitizer (guinea pig)

CHRONIC TOXICITY: Major effects in rats and dogs from long-term exposure to azinphos-methyl included alopecia, diarrhea, reduced body weight gains, elevated liver enzymes and/or cholinesterase inhibition.

REPRODUCTIVE & DEVELOPMENTAL TOXICITY: Reproduction: Azinphos-methyl was not a primary reproductive toxicant in a two-generation study in rats. Reproductive effects observed occurred only in conjunction with maternal toxicity. **Developmental Toxicity:** Azinphos-methyl did not produce any developmental, embryonic or teratogenic effects in developmental toxicity studies in rats and rabbits.

NEUROTOXICITY: There was no evidence of delayed neurotoxicity in hens treated by oral gavage with azinphos-methyl.

Azinphos-methyl produced clinical signs of toxicity, cholinesterase inhibition and neurobehavioral effects in acute and subchronic neurotoxicity screening studies in rats. All of these effects were ascribed to cholinergic toxicity. There were no correlative micropathologic findings within the skeletal muscles or neural tissues.

Azinphos-methyl caused a dose-related increase in cholinesterase inhibition in dams in a developmental neurotoxicity screening study in rats. There was no detectable effect on the offspring, including cholinesterase inhibition.

MUTAGENICITY: Several positive in vitro mutagenicity studies have been reported on azinphos-methyl, however, negative results have been obtained in all in vivo studies conducted on azinphos-methyl.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This pesticide is extremely toxic to fish and wildlife. For terrestrial uses, 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 contaminate water when disposing of equipment washwater or insate. Drift and runoff may be hazardous to aquatic organisms in neighboring areas.

This product is highly toxic to bees exposed directly to treatment of residues on crops. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Protective information may be obtained from your cooperative Agricultural Extension Service.

This chemical can contaminate surface water through spray applications. Under some conditions, it may also have a high potential for runoff into surface water after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

13. DISPOSAL CONSIDERATIONS

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

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. The product should not be allowed to enter drains, water courses or the soil.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

RQ, UN 2783, Organophosphorus Pesticides, Solid, Toxic (Azinphos-methyl), 6.1, PGII
(For vessel or bulk shipments add: *Marine Pollutant*)

INTERNATIONAL TRANSPORTATION

MATERIAL SAFETY DATA SHEET

Guthion® Solupak

Page 5 of 5

IMO (vessel): RQ, UN 2783, Organophosphorus Pesticides, Solid, Toxic (Azinphos-methyl), 6.1, PGII, Marine pollutant

IATA (air): RQ, UN 2783, Organophosphorus Pesticides, Solid, Toxic (Azinphos-methyl), 6.1, PGII

15. REGULATORY INFORMATION

SARA TITLE III CLASSIFICATION:

Section 302/304: Azinphos-methyl (CAS # 86-50-0)

Section 311/312: Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

Section 313 chemical(s): Not Applicable

CA PROPOSITION 65: Not applicable.

CERCLA REPORTABLE QUANTITY (RQ): Azinphos-methyl RQ= 1 lb.

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA: Not applicable

16. OTHER INFORMATION

HAZARD RATINGS:	NFPA	0	LEAST
HEALTH:	3	1	SLIGHT
FLAMMABILITY:	2	2	MODERATE
REACTIVITY:	2	3	HIGH
		4	SEVERE
	HMIS	0	MINIMAL
HEALTH:	3	1	SLIGHT
FLAMMABILITY:	2	2	MODERATE
PHYSICAL:	1	3	SERIOUS
		4	SEVERE

MSDS DATE: 9-2-08; Supersedes version dated 10-9-07. Changes made to Section 7, 13 and 14.

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.