ASTRA INDUSTRIAL COMPLEX CO., LTD. (**ASTRACHEM**)
P.O. BOX 30447, AL-KHOBAR 31952
KINGDOM OF SAUDI ARABIA
*www.astra-agri.com.sa*

أســتراكيـــم

# MATERIAL SAFETY DATA SHEET

# *KNOX OUT® 2FM*

ASTRA INDUSTRIAL COMPLEX CO., LTD. (**ASTRACHEM**)
P.O. BOX 30447, AL-KHOBAR 31952
KINGDOM OF SAUDI ARABIA

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name**: *KNOX OUT® 2FM*

**Chemical Class:** Organophosphate

**Chemical Formula:** $C_{12}H_{21}N_2O_3PS$

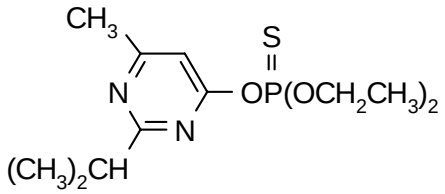
**Chemical Name:** *O,O*-diethyl *O*-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate (***Microencapsulated***)

**EPA registration Number**: 4581-335

**Use:** ***KNOX OUT®*** *2FM* is a Residual Pest Control Product formulated as microencapsulated suspention for use in Public Health Insect Pests Control. It contains 240 g/L of the active ingredient Diazinon microencapsulated.

**Producer:** **Astra Industrial Complex Co., Ltd.**
P.O. Box 30447, Al-Khobar 31952
Kingdom of Saudi Arabia
Emergency Tel # (+966) 3 8121 406

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| Substance | Proportions. % w/w | Chemical structure |
|---|---|---|
| ***Diazinon*** **"Microencapsulate"**<br>**CAS No.** *333-41-5*<br>**Chemical Name:** *O,O*-diethyl *O*-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate *(IUPAC)* | 23 %<br>(240 g/L) |  |

## 3. HAZARD IDENTIFICATION

**Emergency overview**

Cream to beige liquid with characteristic odor.
CAUTION!

HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with eyes, skin and clothing.
Avoid breathing mist.
Use only with adequate ventilation.
Wash thoroughly after handling.
KEEP OUT OF REACH OF CHILDREN.

**Potential Health Effects**

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. This material is a microencapsulated insecticide. Microencapsulation may tend to limit exposure to the product or it may limit the rate of absorbtion and distribution following exposure. Based on single exposure animal tests, it is considered, to be practically non-toxic if swallowed on inhaled, no more than slightly toxic if absorbed through skin and non-irritating to skin and eyes. The active ingredient in its non-encapsulated form, is readily absorbed after inhalation and skin contact. Overexposure by inhalation, skin absorption or swallowing may cause organophosphate poisoning (cholinesterase inhibition) with symptoms including swallowing difficulty, gastrointestinal distress, vomiting, diarrhea, increased urination, headache, weakness, tightness in chest, blurred vision, anxiety or confusion, salivation, sweating, constricted pupils, muscle twitching, respiratory distress, convulsions, unconsciousness and possibly death.

## 4. FIRST AID MEASURES

**Emergency and First aid Procedures**

**If Swallowed:**

Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anythink by mouth and do not induce vomiting.

**Skin**:

Wash affected area with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Inhalation**:

Remove victim to fresh air. If not breathing administer artificial respiration. Avoid unprotected mouth to mouth resuscitation. GET MEDICAL ATTENTION.

**Eye**:

Hold eyelids open and flush with a steady stream of water at least 15 minutes. GET MEDICAL ATTENTION.

**Note to Physician:**

The active ingredient is an organophosphate cholinesterase inhibitor. Atropine is antidotal. 2-PAM is also antidotal and may be administered in conjunction with atropine. Morphine is contraindicated.

## 5. FIRE FIGHTING MEASURES

**Fire and Explosion:**

Flash point 96 °C (Flash point method)

**Flammable limits in air:**

**Auto ignition Temperature:**

**Extinguishing Media:**

Use water spray, carbon dioxide, foam or dry chemical.

**Special fire fighting procedures:**

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

**Fire and Explosion Hazard**

Avoid breathing fumes from fire-exposed material

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:**

Small spills: Soak up with an inert absorbent. Scoop up and place in a clean, dry container. Consult with environmental

engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials.

Large spills: Pump into marked containers for disposal or reclamation. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

## 7. HANDLING AND STORAGE

**Handling**

Do not breathe mist. Do not breathe vapor.
Do not get in eyes, on skin or clothing. Wash thoroughly with soap and water after handling.
Keep container closed. Empty container may contain hazardous residues.

**Storage**

Keep from freezing; material may coagulate

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering controls:**

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

**Respiratory Protection:**

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposure cannot be kept .at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full-face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR & 1910.134

**Protective clothing:**

Chemical resistant gloves, coveralls, apron and foot coverings.

**Eye / Face Protection:**

Where there is a potential for eye contact, wear chemical goggles and have eye-flushing equipment available.

**Skin Protection:**

Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and skin with soap and water thoroughly after handling.

**Airborne Exposure Guidelines for Ingredients**

| Exposure Limit | Value |
|---|---|
| Diazinon | |
| ACGIH Skin designator | y |
| ACGIH TWA | 0.1 mg/m3 |

Only those components with exposure limits are printed in this section.

Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Assay: | Microencapsulated "***Diazinon***" 240 g/L |
| Appearance: | Beige to Cream liquid |
| Odour | Characteristic odor |
| Specific Gravity | 1.041 @ 20°C |
| pH | Nominal 8 (1% dispersion) |
| Vapor Pressure: | NE |
| Freezing Point | 0°C |
| Boiling Point | 100°C |
| Solubility in water | Disperses |
| Percent Volatile | 70% |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | Chemically stable under normal and anticipated storage and handling conditions. |
| Hazardous polymerization: | will not occur |
| Incompatibility: | Materials that react with water. |

**Hazardous Decomposition products**

Possible toxic is substances from thermal degradation.

## 11. TOXICOLOGICAL INFORMATION

**Toxicology Data:**

| | |
|---|---|
| Acute Oral $LD_{50}$ (rat) | >20,000 mg/kg |
| Dermal $LD_{50}$ (rabbits) | >2,000 mg/kg |
| Acute Inhalation $LC_{50}$ (1h rat) | 22.4 mg/l |

| | |
|---|---|
| Oral: | Practically Non-toxic to Rats. |
| Dermal: | No more than slightly toxic to Rabbits. |
| Inhalation: | Practically Non-toxic to Rats. |
| Eye Irritation | Non-irritating to rabbits |
| Skin Irritation | Non-irritating to Rabbits (4-hr exposure, 0.0/8.0) |

KNOX OUT fi 2FM Insecticide

No skin irritation or allergy was reported in guinea pigs following repeated exposures to KNOX OUT fi 2FM in controlled skin contact studies.

## 12. ECOLOGICAL INFORMATION

No data are available.

## 13. DISPOSAL CONSIDERATION

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide 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.

## 14. TRANSPORT INFORMATION

| | | |
|---|---|---|
| **Proper Shipping Name:** | **Environmentally Hazardous,** substance, Liquid, N.O.S (Diazinon) | |
| **UN. No:** | **UN 3082** | |
| **Class:** | **9** | |
| **Classification Code:** | M6 | |
| **Packing group:** | **III** | |
| **Subsidiary Risks:** | **9** | |
| **Special provisions:** | 274 | |
| **Limited quantities:** | LQ28 | |
| **Packaging:** | Packing instructions | P001, IBC03, LP01 R001 |
| | Special packing provisions | - |
| | Mixed Packaging Provisions | MP15 |
| **UN Portable tanks** | Instructions | T4 |
| | Special Provisions | TP2 TP29 |
| | Tank Code | LGBV |
| **ADR Tank** | Special Provision | |
| | Vehicle for tank carriage | AT |
| | Transport Category | 3 |
| **Special provision carriage** | Packages | Vl |
| | Bulk | - |
| | Loading, unloading & Handling | CV13 |
| | Operation | - |
| **Hazard Identification** | | **90** |

## 15. REGULATORY INFORMATION.

Hazard Categories Under Criteria Of SARA Title III Rules (40 CFR Part 370)

| | | | |
|---|---|---|---|
| Immediate (Acute) Health | Y | Fire | N |
| Delayed (Chronic) Health | N | Reactive | N |
| Sudden Release of Pressure | | N | |

The components of this product are all on the TSCA inventory list.

**Ingredient Related Regulatory Information:**

SARA Title III, Section 313

This product does contain chemical(s), which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 986 and 40 CFR Part 372.

## 16. OTHER INFORMATION

Buyer assumes all responsibility for safety and use not in accordance with the product label instructions.