



# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Name** : **Diafenthiuron Technical**

**Common Name** : Diafenthiuron

**IUPAC Name** : 1-tert-butyl-3-(2,6-diisopropyl-4-phenoxyphenyl)thiourea

**Chemical Abstracts Name** : *N*-[2,6-bis(1-methylethyl)-4-phenoxyphenyl]-*N'*-(1,1-dimethylethyl)thiourea

**CAS No.** : 80060-09-9

**Chemical formula** : C<sub>23</sub>H<sub>32</sub>N<sub>2</sub>OS

**Molecular weight** : 384.6

**Use** : Insecticide, acaricide

**Company Name** : HPM Chemicals & Fertilizers Ltd.

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Content % (w/w)
Diafenthiuron	80060-09-9	92.00
Others		08.00

## 3. HAZARDS IDENTIFICATION

**Health Hazards** : EMERGENCY OVERVIEW - May cause sensitization by skin contact. Harmful: Danger of



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serious damage to health by prolonged exposure in contact with skin and if swallowed.

- Emergency** : Warning! Keep out of reach of children. Toxic if swallowed and by inhalation.
- Skin and Eyes** : Avoid contact with skin and eyes.
- Entry route** : Ingestion, Inhalation, Contact with eye or skin.
- Symptoms of poisoning** : Symptoms of poisoning would probably include nausea, vomiting, dizziness.

### 4. FIRST AID MEASURES

- Ingestion** : DO NOT induce vomiting. Rinse any residual product from mouth and lips. Give water to drink and seek medical advice.
- Eye** : Immediately flush eyes with running water until product is removed. Seek medical advice if irritation persists.
- Skin** : Remove contaminated clothing. Wash thoroughly under running water using a mild soap to remove all products. Seek medical advice if irritation, reddening and/or other damage occurs.
- Inhalation** : Remove victim from exposure. Keep at rest until fully recovered. Seek medical advice if effects persist.
- Advice to Physician** : No specific Antidote. Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

- Specific Hazard** : Do not cut, drill, grind or weld on or near this container.
- Extinguishing Media** : Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff. CO<sub>2</sub>, Foam or dry chemical are preferred. Soft stream water fog or fine water sprays if no alternatives. Contain all runoff.
- Hazard From** : If involved in a fire, it will emit toxic and noxious



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- Combustion products** : fumes of oxides of carbon, nitrogen or sulfur. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapor or smoke.
- Protective equipment** : Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapors generated.

### **6. ACCIDENTAL RELEASE MEASURES**

- In Case of Emergency** : Isolate and post spill area. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and eye/face protection to prevent skin and eyes being affected. Evacuate unprotected and unnecessary personnel from area of spill. If material is leaking from a container, stop the leak only if this can be done safely. Prevent spillage entering drains or watercourses. Contain spill and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as per regulations.
- Clean up Procedures** : To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

### **7. HANDLING AND STORAGE**

- Handling** : Ensure containers are kept closed until using product. Avoid contact with eyes and skin. Wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves.
- Storage** : DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children,



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animals, food, feed stuffs, seed and fertilizers.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls** : Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.
- Ingestion** : DO NOT eat, drink or apply cosmetics, where there is a potential for exposure to the product.
- Eye Protection** : Safety goggles, chemical splash goggles or face shield for eyes protection should be used. Safety showers and eye wash should be easily available.
- Skin Protection** : Chemical resistant gloves, coveralls socks, apron and chemical resistant foot covering should always be used while handling the product.
- Respiratory protection** : Always use NIOSH/MSHA approved respiratory protection equipment with a universal filter type including particle filter.
- General Protection** : Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist. Elbow-length PVC gloves and face shield. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Colour** : White
- Odour** : Odorless
- Physical state** : Solid
- Melting Point** : 144.6 °C – 147.7 °C
- Vapor Pressure** :  $<2 \times 10^{-3}$  mPa (25 °C)
- Solubility** : In water 0.06 mg/l (25°C). In ethanol 43, acetone 320, toluene 330, *n*-hexane 9.6, *n*-octanol 26 (all in g/l, 25 °C).



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### 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	: Does not dissociate.
<b>Conditions to Avoid</b>	: Avoid direct sunlight.
<b>Incompatible Materials</b>	: Strong oxidizing agents, bases, chlorates, nitrates.
<b>Hazardous decomposition products</b>	: When heated to decompose it emits toxic fumes of bromide ion, cyanide ion, nitrogen oxides. Hazardous Decomposition Products: Carbon monoxide.
<b>Hazardous Reactions</b>	: No polymerization will occur.

### 11. TOXICOLOGICAL INFORMATION

<b>Acute Oral LD<sub>50</sub></b>	: 2068 mg/kg body weight (Rat)
<b>Acute Dermal LD<sub>50</sub></b>	: >2000 mg/kg body weight (Rat)
<b>Acute Inhalation LC<sub>50</sub></b>	: 0.558 mg/l (4 h) (rat)
<b>Skin Irritation</b>	: Not skin Irritant (Rat)
<b>Eye Irritation</b>	: Non- irritating to eyes (Rat)
<b>Skin sensitization</b>	: Not a skin sensitizer (guinea pigs)

### 12. ECOLOGICAL INFORMATION

<b>Bird</b>	: LD <sub>50</sub> for bobwhite quail and mallard ducks >1500 mg/kg
<b>Fish</b>	: LC <sub>50</sub> (96 h) for carp 0.0007 mg/l (because of rapid degradation to non-toxic metabolites, there is no significant hazard under field conditions)
<b>Daphnia</b>	: LC <sub>50</sub> (48 h) 0.15 µg/l
<b>Bees</b>	: Toxic to honey bees; LD <sub>50</sub> (48 h) oral 2.1 µg/bee LD <sub>50</sub> (48 h) contact 1.5 µg/bee
<b>Worms</b>	: LC <sub>50</sub> (14 d) c. 2600 mg/kg



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### 13. DISPOSAL CONSIDERATIONS

- Disposal** : This material must be disposed of as a Hazardous Waste. Disposal should be in accordance with local, nation or state rule and regulations.
- Disposal of empty Containers** : Break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

### 14. TRANSPORT INFORMATION

- Shipping Name** : Environmentally hazardous substance, solid, n.o.s. (not including waste).
- UN No.** : 3077
- Class** : 9
- Packing group** : III
- Marine pollutant** : Yes

### 15. REGULATORY INFORMATION

- Risk Phrase** **R21** Harmful in contact with skin.  
**R22** Harmful if swallowed.  
**R 51** Toxic to aquatic organisms
- Safety phrase** **S 2** Keep out of reach of children.  
**S 24** Avoid contact with skin.  
**S 25** Avoid contact with eyes.  
**S 37/39** Wear suitable gloves and eye/face protection.  
**S 46** If swallowed seek medical advice immediately and show this container or label.  
**S 61** Avoid release to the environment. Refer to special instructions/safety data sheets.



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### **16. OTHER INFORMATION**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by HPM Chemicals & Fertilizers Ltd., as to the results to be obtained based upon the user's use of the information, nor does HPM Chemicals & Fertilizers Ltd., assume any liability arising out of user's use of the information.

**Date: 11/01/2016**

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