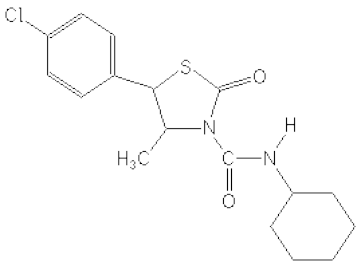
# TECHNICAL DATA SHEET
# HEXYTHIAZOX TECHNICAL

## 1. INTRODUCTION

Hexythiazox is an acaricide which has ovicidal, larvicidal and nymphicidal activities and is applied at any stage of plant growth from budding to fruiting. There are several application timings to protect top fruits, e.g., the winter eggs are controlled in early spring, other infection in late spring, and reinfection in summer and occasionally early autumn

## 2. ACTIVE INGREDIENT

| | | |
|---|---|---|
| Common name | : | Hexythiazox |
| Chemical Name | : | (4*RS*,5*RS*)-5-(4-chlorophenyl)-*N*-cyclohexyl-4-methyl-2-oxo-1,3-thiazolidine-3-carboxamide |
| Chemical Class | : | Thiazolidine acaricides |
| CAS Registry No. | : | 78587-05-0 |
| Molecular Formula | : | $C_{17}H_{21}ClN_2O_2S$ |
| Structural Formula | : |  |
| Molecular weight | : | 352.90 |
| Technical Purity | : | 97% min |

## 3. PHYSICOCHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Light tan granules |
| Melting Point | : | 108-108.5℃ |
| Water Solubility | : | 0.5 mg/l @ 20℃ |

| | | |
|---|---|---|
| Kow logP | : | 2.67 |
| S.g./density | : | 1.31 |
| Vapor Pressure | : | 3.38 x 10-6 Pa @ 20℃ |
| Solubility In water | : | 0.5 mg/l (20°C) |
| Solubility in solvents | : | In chloroform 1379, xylene 362, methanol 206, acetone 160, acetonitrile 28.6, hexane 4 (all in g/l, 20 ºC). |
| Stability | : | Stable for 2 years when it is stored at normal temperature |
| Decomposition point | : | above 300°C |

## 4. MODE OF ACTION

Non-systemic acaricide with contact and stomach action. Good translaminar activity. Has ovicidal, larvicidal, and nymphicidal activity. Not active against adults, but eggs laid by treated females are non-viable.

## 5. TOXICITY

| | | | |
|---|---|---|---|
| **Acute Oral LD $_{50}$** | (mice): >5,000 mg/kg body weight<br>(rat): >5,000 mg/kg | **Acute Dermal LD $_{50}$ (rabbit)** | >5000 mg/kg |
| **Eye Irritation (rabbit)** | Slight irritant | **Skin Irritation** | Not a skin irritant |
| **Inhalation $LC_{50}$(rat)** | 2.8 mg/L – 4 hour | **Skin Sensitization** | Not a skin sensitizer |
| **Carcinogenic Potential** | None | **Reproductive toxicity** | None |
| **Toxicity class** | WHO (a.i) III | **ADI** | 0.3/100 = 0.03 mg/kg |

## 6. ECOTOXICITY

| | | | |
|---|---|---|---|
| **Acute Oral LD $_{50}$ (Birds)** | Mullard ducks :>2510 mg/kg<br>Japanese quail : >5000 mg/kg | **Dietary LC $_{50}$ (bobwhite quail)** | >5620 mg/kg diet |
| **Daphnia $LC_{50}$(48h)** | 1.2 mg/l | **Bees** | . LD50 >200 µg/bee |
| **Acute $LC_{50}$(Fish) 96 h**<br>**Rainbow trout**<br>**Bluegill sunfish** | >300 mg/l<br>11.6 mg/l | **Carp** | 3.7 µg/bee |

## 7. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability | Stable |
| Conditions to avoid | None known |
| Hazardous decomposition products | Decomposition will not occur |
| Hazardous Polymerization | Will not occur |

## 8. COMPATIBILITY

Compatible with all pesticides except alkaline one.