SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: DECIS® 1.5EC INSECTICIDE
MSDS Number: 102000003170
Chemical Family: Pyrethroid
EPA Registration No.: 264-1011
Product Use: For insect control on bulb vegetables, cucurbit vegetables, fruiting vegetables, root vegetables (except sugarbeets), tuberous and corm vegetables, pome fruits, tree nuts, canola and rapeseed, cotton, field corn, popcorn, sweet corn, soybeans, sorghum and sunflowers.

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
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<tbody>
<tr>
<td>Deltamethrin</td>
<td>52918-63-5</td>
<td>16.60</td>
</tr>
<tr>
<td>2-Methylpropan-1-ol</td>
<td>78-83-1</td>
<td>1.65</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>3.90</td>
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<tr>
<td>Trade Secret Ingredient(s)</td>
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<td>10.00</td>
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</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview
Danger! Fatal if swallowed. Corrosive - causes irreversible eye damage. Causes skin burns. Harmful if inhaled or absorbed through skin. Do not get in eyes, on skin, or on clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Extremely toxic to fish and aquatic invertebrates.

Physical State: liquid
Odor: characteristic of organic solvents
Appearance: off-white
Routes of Exposure
Ingestion, Inhalation, Eye contact, Skin Absorption, Skin contact

Immediate Effects

Eye
- Corrosive - causes irreversible eye damage. Do not get in eyes.

Skin
- Harmful if absorbed through skin. Can cause irritation to the skin resulting in effects such as burning and/or tingling sensation. Avoid contact with skin.

Ingestion
- Fatal if swallowed. Do not take internally.

Inhalation
- Harmful if inhaled. Avoid breathing spray mist. May cause upper respiratory tract irritation, dizziness, headache, nausea, vomiting.

SECTION 4. FIRST AID MEASURES

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

Eye
- 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.

Skin
- Take off all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Ingestion
- Call a poison control center or doctor immediately for treatment advice. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give liquids to drink. Never give anything by mouth to an unconscious person.

Inhalation
- Move 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.

Notes to Physician

Signs and Symptoms
Local:
- After skin contact: paresthesia (local).
- May cause irritation to skin and mucous membranes.
- Inhalation may provoke the following symptoms:
  - irritation
  - cough

Systemic:
- excitement
- gastrointestinal discomfort
- tremors
- Dizziness, headache, listlessness, nausea and vomiting, epigastric pain, muscular fasciculation of limbs, unconsciousness, convulsions and coma (very
This product/preparation contains a pyrethroid. Must NOT be confused with organophosphorus compounds! Risk of product entering the lungs on vomiting after ingestion. Contains petroleum distillates.

Local treatment: Initial treatment should be symptomatic and supportive. After eye contact: Instillation of local anaesthetic drops e.g. 1% Amethocaine Hydrochloride eye drops. Give Analgesics as necessary.

Published data indicate Vitamin E acetate can prevent and/or mitigate symptoms of paresthesia (skin irritation) caused by synthetic pyrethroids.

Systemic treatment: Endotracheal intubation should be done and gastric lavage performed, followed by administration of charcoal. Monitoring of respiratory and cardiac functions. ECG - monitoring (Electrocardiogram). Check for pulmonary oedema in event of inhalation. Keep airway clear, administer artificial respiration if necessary. Against convulsions: give diazepam. For adults 5-10 mg intravenously as necessary until fully sedated; for children 2.5 mg i.v. There is no specific antidote. Contraindication: atropine. Contraindication: derivatives of adrenaline. Recovery: Spontaneous.

SECTION 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>172 °F / 78 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Type:</td>
<td>closed cup</td>
</tr>
</tbody>
</table>

| Suitable Extinguishing Media | dry chemical, carbon dioxide (CO2), water spray, foam |

| Fire Fighting Instructions | Keep out of smoke. Stay upwind. Avoid contact with spilled product or contaminated surfaces. Cool containers with water from the farthest possible distance away. Move containers from fire area if without risk. Do not allow run-off from fire fighting to enter drains or water courses. |

| Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| Personal Precautions | Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. |
Methods for Cleaning Up

Take all necessary action to prevent and to remedy the effects of the spill. Take up with absorbent material (e.g. sand, diatomaceous earth or a proprietary absorbent material). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice

Use personal protective equipment. Avoid breathing vapors and avoid skin contact. Do not allow material to enter streams, sewers, or other waterways or contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling Procedures

Handle and open container in a manner as to prevent spillage. Do not use near heat or open flame.

Storing Procedures

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Do not contaminate water, food, or feed by storage or disposal.

Work/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.

Remove and wash contaminated clothing before re-use. Then wash thoroughly and put on clean clothing.

Min/Max Storage Temperatures

Do not transport or store below 10 °C / 50 °F
Do not transport or store above 38 °C / 100 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection

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 warm/tepid water. Keep and wash PPE separately from other laundry.

Engineering Controls

Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Ensure adequate ventilation, especially in confined areas.

Eye/Face Protection

tightly fitting safety goggles

Hand Protection

Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

Body Protection

Coveralls over long sleeved shirt and long pants.
Chemical resistance footwear plus socks.
Chemical resistant headgear for overhead exposure
Chemical resistant apron when cleaning equipment, mixing or loading.

Respiratory Protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or Industry recommendations.

Exposure Limits

This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

2-Methylpropan-1-ol 78-83-1

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA Z1</th>
<th>OSHA Z1A</th>
<th>US CA OEL</th>
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<tbody>
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<td></td>
<td>TWA</td>
<td>REL</td>
<td>PEL</td>
<td>TWA</td>
<td>TWA PEL</td>
</tr>
<tr>
<td>Limit</td>
<td>50 ppm</td>
<td>50 ppm</td>
<td>100 ppm</td>
<td>50 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>Limit</td>
<td></td>
<td>150 mg/m³</td>
<td>300 mg/m³</td>
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Naphthalene 91-20-3

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA Z1</th>
<th>OSHA Z1A</th>
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<tr>
<td></td>
<td>TWA</td>
<td>REL</td>
<td>PEL</td>
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<td>TWA PEL</td>
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<tr>
<td>Limit</td>
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<td>50 mg/m³</td>
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>off-white</td>
</tr>
<tr>
<td>Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic of organic solvents</td>
</tr>
<tr>
<td>pH</td>
<td>3.7 - 5.7 (1 %)</td>
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<tr>
<td>Specific Gravity</td>
<td>1.08</td>
</tr>
<tr>
<td>Density</td>
<td>ca. 1.083 g/cm³ at 20 ºC</td>
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<tr>
<td>Bulk Density</td>
<td>8.99 lbs/gallon</td>
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<tr>
<td>Water Solubility</td>
<td>dispersible</td>
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</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable
SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the active ingredient, deltamethrin technical.

**Acute Oral Toxicity**
- male/female rat: LD50: 42.9 mg/kg

**Acute Dermal Toxicity**
- male/female rat: LD50: > 2,000 mg/kg

**Acute Inhalation Toxicity**
- male/female rat: LC50: > 0.57 mg/l
  - Exposure time: 4 h
  - Determined in the form of liquid aerosol.
  - (actual)
- male/female rat: LC50: > 2.28 mg/l
  - Exposure time: 1 h
  - Determined in the form of liquid aerosol.
  - Extrapolated from the 4 hr LC50.
  - (actual)

**Skin Irritation**
- rabbit: Irritating to skin.

**Eye Irritation**
- rabbit: Corrosive - causes irreversible eye damage.

**Sensitization**
- guinea pig: Non-sensitizing.

**Subchronic Toxicity**
- Short-term exposure to deltamethrin caused neurobehavioral effects (e.g., tremors) in rats and dogs. In a 21-day dermal toxicity study in rats, deltamethrin caused dermal changes at the dose site.

**Chronic Toxicity**
- Long-term exposure to deltamethrin caused neurobehavioral effects (e.g., tremors) in chronic toxicity studies in rats and dogs.

**Assessment Carcinogenicity**
- Deltamethrin was not carcinogenic in oncogenicity studies in rats and mice.

**ACGIH**
- Naphthalene 91-20-3 Group A4

**NTP**
- Naphthalene 91-20-3

**IARC**
- Deltamethrin 52918-63-5 Overall evaluation: 3
- Naphthalene 91-20-3 Overall evaluation: 2B

**OSHA**
- None.

**Reproductive & Developmental Toxicity**
- REPRODUCTION: Deltamethrin was not a reproductive toxicant in multi-generation reproduction studies in rats.
DEVELOPMENTAL TOXICITY: Deltamethrin was not a primary developmental toxicant in developmental toxicity studies in rats and rabbits. Developmental effects (e.g., delayed ossifications) were observed in rabbits at the high-dose but were considered secondary to maternal toxicity.

Neurotoxicity
Deltamethrin did not cause delayed neurotoxicity in hens. In acute and subchronic neurotoxicity screening studies in rats, neurobehavioral effects (e.g., tremors) were observed without correlating neuropathological changes.

Mutagenicity
Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo mutagenicity studies.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to Fish
Fish
LC50: 0.001 - 0.01 mg/l
The value mentioned relates to the active ingredient deltamethrin.

Environmental Precautions
Extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to fish/aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Highly toxic to bees exposed to direct treatment. Do not apply it or allow it to drift to crops or weeds on which bees are actively foraging.

Notify state and/or Federal authorities and Bayer immediately if you observe any adverse environmental effects due to the use of this product. It is a Federal offense to use any pesticide in a manner that results in the death of a member of an endangered species.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
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.

Container Disposal
Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke. Refer to the product label for other disposal instructions.
RCRA Classification: The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

78-83-1 2-Methylpropan-1-ol

78-83-1 2-Methylpropan-1-ol

78-83-1 2-Methylpropan-1-ol

91-20-3 Naphthalene

91-20-3 Naphthalene

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Pesticides, Liquid, Toxic, N.O.S. (Deltamethrin) // 6.1 // UN2902 // PG II

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I.; poison, other than gases that are poisonous by inhalation

SECTION 15. REGULATORY INFORMATION

This product contains material(s) which are Trade Secret and are on various Regulatory Lists. These material(s) are not listed below. If more information is required, call the product information number listed in Section 1.

EPA Registration No. 264-1011

US Federal Regulations
TSCA list
2-Methylpropan-1-ol 78-83-1
Naphthalene 91-20-3

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Naphthalene 91-20-3

SARA Title III - Section 302 - Notification and Information
None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting
Naphthalene  91-20-3  0.1%

US States Regulatory Reporting
CA Prop65
This product contains a chemical known to the State of California to cause cancer.
Naphthalene  91-20-3

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
2-Methylpropan-1-ol  78-83-1  CA, CT, IL, MN, PA, RI
Naphthalene  91-20-3  CA, CT, IL, MN, NJ, PA, RI

Canadian Regulations
Canadian Domestic Substance List
2-Methylpropan-1-ol  78-83-1
Naphthalene  91-20-3

Environmental
CERCLA
2-Methylpropan-1-ol  78-83-1  5,000 lbs
Naphthalene  91-20-3  100 lbs

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Deltamethrin  52918-63-5
2-Methylpropan-1-ol  78-83-1
Naphthalene  91-20-3

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 3  Flammability - 2  Reactivity - 0  Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated EPA Registration number.

Revision Date: 12/08/2005

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