SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier
Trade name Deltamethrin 5SC Concentrate
Product code (UVP) 05946468
SDS Number 102000003167
EPA Registration No. 432-821

Relevant identified uses of the substance or mixture and uses advised against
Use Insecticide
Restrictions on use See product label for restrictions.

Information on manufacturer
Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency Telephone Number (24hr/7 days) 1-800-334-7577

Product Information Telephone Number
SDS Information or Request SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards
No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deltamethrin</td>
<td>52918-63-5</td>
<td>4.75</td>
</tr>
<tr>
<td>1,2-Propanediol</td>
<td>57-55-6</td>
<td>15.20</td>
</tr>
<tr>
<td>Nonylphenol ethoxylate, branched</td>
<td>127087-87-0</td>
<td>2.85</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

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 physician or poison control center immediately.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact
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 physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms
To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Carbon dioxide (CO2), Dry chemical, Foam, Water

Unsuitable
None known.

Special hazards arising from the substance or mixture
Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for fire-fighters
Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information
Evacuate personnel to safe areas. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point
Autoignition temperature
Lower explosion limit
Upper explosion limit
Explosivity

no data available
no data available
no data available
no data available
not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Precautions
Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up
Methods for cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Decontaminate tools and equipment following cleanup. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice
Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

Reference to other sections
Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling
Avoid contact with skin, eyes and clothing. Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Advice on protection against fire and explosion
Keep away from heat and sources of ignition.

Hygiene measures
Smoking, eating and drinking should be prohibited in the application area. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers

Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deltamethrin</td>
<td>52918-63-5</td>
<td>0.02 mg/m³ (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Silicon dioxide</td>
<td>7631-86-9</td>
<td>6 mg/m³ (REL)</td>
<td>2010</td>
<td>NIOSH</td>
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<tr>
<td>Silicon dioxide (Particulate.)</td>
<td>7631-86-9</td>
<td>27 ug/m³ (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<tr>
<td>Silicon dioxide (Particulate.)</td>
<td>7631-86-9</td>
<td>2 ug/m³ (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<tr>
<td>Silicon dioxide</td>
<td>7631-86-9</td>
<td>0.8 mg/m³ (TWA)</td>
<td>2000</td>
<td>Z3</td>
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<tr>
<td>Silicon dioxide</td>
<td>7631-86-9</td>
<td>20 millions of particles per cubic foot of air (TWA)</td>
<td>2000</td>
<td>Z3</td>
</tr>
<tr>
<td>1,2-Propanediol (Vapor.)</td>
<td>57-55-6</td>
<td>1000 ug/m³ (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<tr>
<td>1,2-Propanediol (Vapor.)</td>
<td>57-55-6</td>
<td>50 ppb (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<tr>
<td>1,2-Propanediol (Vapor.)</td>
<td>57-55-6</td>
<td>500 ppb (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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<tr>
<td>1,2-Propanediol (Vapor.)</td>
<td>57-55-6</td>
<td>100 ug/m³ (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
<tr>
<td>1,2-Propanediol (Aerosol.)</td>
<td>57-55-6</td>
<td>10 mg/m³ (TWA)</td>
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<td>WEEL</td>
</tr>
<tr>
<td>Nonylphenol ethoxylate, branched</td>
<td>127087-87-0</td>
<td>600 ug/m³ (ST ESL)</td>
<td>10 2003</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Nonylphenol ethoxylate, branched</td>
<td>127087-87-0</td>
<td>60 ug/m³ (AN ESL)</td>
<td>10 2003</td>
<td>TX ESL</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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.
Hand protection
Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber.

Eye protection
Tightly fitting safety goggles

Skin and body protection
Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures
Eye wash facility and safety shower should be available.
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.
Follow all label instructions.
Train employees in safe use of the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
white

Physical State
liquid suspension

Odor
none

Odour Threshold
no data available

pH
<= 7.0 at 100 %

Vapor Pressure
no data available

Vapor Density (Air = 1)
no data available

Density
ca. 1.05 g/cm³ at 20 °C

Evaporation rate
no data available

Boiling Point
no data available

Melting / Freezing Point
no data available

Water solubility
immiscible

Minimum Ignition Energy
not applicable

Decomposition temperature
no data available

Partition coefficient: n-octanol/water
no data available

Viscosity
1,300 - 1,800 cps

Flash point
no data available

Autoignition temperature
no data available

Lower explosion limit
no data available

Upper explosion limit
no data available

Explosivity
not applicable
SECTION 10: STABILITY AND REACTIVITY

Reactivity
Thermal decomposition: no data available
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid: Freezing
Incompatible materials: Strong oxidizing agents, Strong reducing agents
Hazardous decomposition products: No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin contact, Eye contact, Ingestion
Immediate Effects
Skin: Contact with product may result in transient tingling and reddening of the skin.
Inhalation: Harmful if inhaled.
Information on toxicological effects
Acute oral toxicity: LD50 (rat) > 15,000 mg/kg
Acute inhalation toxicity: LC50 (rat) > 1.02 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths
LC50 (rat) > 4.08 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.
Acute dermal toxicity: LD50 (rabbit) > 10,000 mg/kg
Skin irritation: Slight irritation (rabbit)
Eye irritation: Minimally irritating. (rabbit)
Sensitisation: Non-sensitizing. (guinea pig)
Assessment repeated dose toxicity
Deltamethrin caused neurobehavioral effects and/or neuropathological changes in animal studies. The
toxic effects of Deltamethrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

**Assessment Mutagenicity**
Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**
Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.

**ACGIH**
None.

**NTP**
None.

**IARC**
Deltamethrin 52918-63-5 Overall evaluation: 3

**OSHA**
None.

**Assessment toxicity to reproduction**
Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**
Deltamethrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Deltamethrin are related to maternal toxicity.

**Further information**
Acute toxicity studies have been bridged from a similar formulation(s). The non-acute information pertains to the active ingredient(s).

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**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity to fish**
- LC50 (Oncorhynchus mykiss (rainbow trout)) 0.00026 mg/l Exposure time: 96 h
- LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.00017 mg/l Exposure time: 96 h

**Toxicity to aquatic invertebrates**
- LC50 (Eastern Oyster) 0.0082 mg/l Exposure time: 96 h
- LC50 (Mysidopsis bahia (mysid shrimp)) 0.000001 mg/l Exposure time: 96 h

**Biodegradability**
Deltamethrin: not rapidly biodegradable

**Koc**
Deltamethrin: Koc: 10240000
Bioaccumulation

Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 189 - 3,930

Bioaccumulation

Deltamethrin: Bioconcentration factor (BCF) 1,400; Does not bioaccumulate.

Mobility in soil

Deltamethrin: Immobile in soil

Environmental precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.
Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.
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.

Contaminated packaging

Triple rinse containers.
Add washings to sprayer at time of filling.
Puncture container to avoid re-use.
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.
If burned, stay out of smoke.
Follow advice on product label and/or leaflet.

RCRA Information

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user’s responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR

Not dangerous goods / not hazardous material

IMDG

UN number 3082
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)

<table>
<thead>
<tr>
<th>IATA</th>
<th>UN number</th>
<th>Class</th>
<th>Packaging group</th>
<th>Environm. Hazardous Mark</th>
<th>Proper shipping name</th>
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</thead>
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<tr>
<td></td>
<td>3082</td>
<td>9</td>
<td>III</td>
<td>YES</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)</td>
</tr>
</tbody>
</table>

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

**SECTION 15: REGULATORY INFORMATION**

- **EPA Registration No.** 432-821
- **US Federal Regulations**
- **TSCA list**
  - 1,2-Propanediol 57-55-6
  - Nonylphenol ethoxylate, branched 127087-87-0

**US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

None.

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**CA Prop65**

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

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

**US State Right-To-Know Ingredients**

- 1,2-Propanediol 57-55-6 MN

**Canadian Regulations**

**Canadian Domestic Substance List**

- Nonylphenol ethoxylate, branched 127087-87-0

**Environmental**

**CERCLA**
None.

**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

**EPA/FIFRA Information:**
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

- **Signal word:** Caution!
- **Hazard statements:** Harmful if inhaled.
  Do not breathe vapours or spray mist.
  Contact with product may result in transient tingling and reddening of the skin.
  Remove and wash contaminated clothing before re-use.

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**SECTION 16: OTHER INFORMATION**

**NFPA 704 (National Fire Protection Association):**
- Health - 2
- Flammability - 1
- Instability - 0
- Others - none

- Health - 2
- Flammability - 1
- Physical Hazard - 0
- PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason for Revision:** Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

**Revision Date:** 07/01/2014

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.