**SHADOW® 3EC HERBICIDE**

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/17/2013  
Revision date: 04/30/2014  
Supersedes: 10/17/2013  
Version: 2.0

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>SHADOW® 3EC HERBICIDE</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>EPA Registration Number : 66330-414</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

| Use of the substance/mixture | Herbicide |

1.3. Details of the supplier of the safety data sheet

| Supplier Information | Arysta LifeScience North America LLC  
15401 Weston Parkway, Suite 150  
Cary, NC 27513 - USA |

1.4. Emergency telephone number

| Emergency Telephone Numbers | Exposure Calls (PROSAR): +1-866-303-6952 or +1-651-603-3432 (international)  
Spill Calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international) |

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**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

**GHS-US classification**

| Flam. Lqd. | 4 H227 |
| Eye Irrit. 2B | H320 |
| Carc. 2 | H351 |
| STOT RE 2 | H373 |
| Asp. Tox. 1 | H304 |

**Hazard pictograms (GHS-US)**

![GHS08]

**Signal word (GHS-US)**

| Danger |

**Hazard statements (GHS-US)**

| H227 - Combustible liquid  
H304 - May be fatal if swallowed and enters airways  
H320 - Causes eye irritation  
H351 - Suspected of causing cancer  
H373 - May cause damage to organs through prolonged or repeated exposure |

**Precautionary statements (GHS-US)**

| P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P260 - Do not breathe mist/vapours/spray  
P264 - Wash hands thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P314 - Get medical advice and attention if you feel unwell  
P331 - If swallowed, do NOT induce vomiting  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P370+P378 - In case of fire: Use carbon dioxide, dry powder, foam, or water fog for extinction  
P403+P235 - Store in a cool and well-ventilated place  
P405 - Store locked up  
P501 - Dispose of contents/container in accordance with local and national regulations |

2.2. Label elements

**GHS-US labelling**

**2.3. Other hazards**

No additional information available
2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Exact concentrations withheld as trade secret.

Full text of H-phrases: see section 16

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Aromatic Naptha Solvent</td>
<td>(CAS No) 64742-94-5</td>
<td>50 – 60</td>
<td>Flam. Liq. 4, H227, Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>Clethodim</td>
<td>(CAS No) 99129-21-2</td>
<td>30 – 40</td>
<td>Acute Tox. 4 (Oral), H302, Acute Tox. 4 (Inhalation; dust, mist), H332, Skin Irrit. 2, H315, STOT RE 2, H372</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>(CAS No) 95-63-6</td>
<td>1 – 7</td>
<td>Flam. Liq. 3, H226, Acute Tox. 4 (Inhalation), H332, Skin Irrit. 2, H315, Eye Irrit. 2A, H319, Aquatic Chronic 2, H411</td>
</tr>
<tr>
<td>Anionic/nonionic surfactant blend</td>
<td>(CAS No) trade secret</td>
<td>1 – 5</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>naphthalene</td>
<td>(CAS No) 91-20-3</td>
<td>0.1 – 2</td>
<td>Acute Tox. 4 (Oral), H302, Carc. 2, H351, Aquatic Acute 1, H400, Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Artificial respiration and/or oxygen if necessary. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Causes damage to organs. Suspected of causing cancer.

Symptoms/injuries after inhalation: Inhalation may cause: irritation, coughing, shortness of breath.

Symptoms/injuries after skin contact: May cause moderate irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Combustible liquid.

Explosion hazard: May form flammable/explosive vapour-air mixture.

Reactivity: Liquid evaporates and forms vapors/fumes that can catch fire and burn with explosive violence.
5.3. Advice for firefighters

Firefighting instructions: Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses. Use water spray or fog for cooling exposed containers.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking. Avoid all eyes and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment: Wear suitable gloves. Rubber. Chemical goggles or safety glasses.

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Wear suitable gloves. Rubber. Chemical goggles or safety glasses.

Emergency procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

For containment: Absorb and/or contain spill with inert material, then place in suitable container. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Handle empty containers with care because residual vapours are flammable. Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Precautions for safe handling: No naked lights. No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapours/spray.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed.

Storage conditions: Keep in fireproof place. Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.


Incompatible materials: Heat sources.

7.3. Specific end use(s)

Herbicide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Heavy Aromatic Naptha Solvent (64742-94-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>10 mg/m³</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
<tr>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>naphthalene (91-20-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>52 mg/m³</td>
</tr>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>10 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>79 mg/m³</td>
</tr>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>15 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
<tr>
<td>50 mg/m³</td>
</tr>
</tbody>
</table>
SHADOW® 3EC HERBICIDE
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<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA PEL (TWA) (ppm)</th>
<th>ACGIH TWA (mg/m³)</th>
<th>ACGIH TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene (91-20-3)</td>
<td>10 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene (95-63-6)</td>
<td></td>
<td>123 mg/m³</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Clethodim (99129-21-2)</td>
<td>None established.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anionic/nonionic surfactant blend (trade secret)</td>
<td>None established.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Avoid creating mist or spray. Avoid splashing. Either local exhaust or general room ventilation is usually required.
Hand protection: Wear suitable gloves resistant to chemical penetration. Nitrile rubber gloves.
Eye protection: In case of splashing or aerosol production: protective goggles.
Respiratory protection: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Use an approved respirator equipped with oil/mist cartridges.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Liquid
- Colour: Amber
- Odour: Aromatic
- Odour threshold: No data available
- pH: 3.96 @ 25 °C
- Relative evaporation rate (butylacetate=1): No data available
- Melting point: No data available
- Freezing point: No data available
- Boiling point: No data available
- Flash point: 61 °C Closed Cup
- Self ignition temperature: No data available
- Decomposition temperature: No data available
- Flammability (solid, gas): No data available
- Vapour pressure: No data available
- Relative vapour density at 20 °C: No data available
- Relative density: 0.98 g/ml @ 20°C
- Density: 0.98 g/ml @ 20°C
- Solubility: insoluble in water. Soluble in hydrocarbon solvents.
- Log Pow: No data available
- Log Kow: No data available
- Viscosity: 20 cP @ 25°C
- Viscosity, kinematic: 20.408 cSt (calculated)
- Viscosity, dynamic: No data available
- Explosive properties: Product is not explosive.
- Oxidising properties: No oxidizing properties.
- Explosive limits: No data available

9.2. Other information

VOC content: 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Liquid evaporates and forms vapors/fumes that can catch fire and burn with explosive violence.
10.2. Chemical stability
Combustible liquid. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products
May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Not classified</th>
</tr>
</thead>
</table>

**SHADOW® 3EC HERBICIDE**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>&gt; 3129 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 5050 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>&gt; 2.23 mg/l/4h</td>
</tr>
</tbody>
</table>

**Clethodim (99129-21-2)**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>1360 (1360 - 1630) mg/kg (from SDS for Arysta Technical (≥93%) Clethodim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>3.9 mg/l/4h (from SDS for Arysta Technical (≥93%) Clethodim)</td>
</tr>
<tr>
<td>ATE (oral)</td>
<td>1360.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE (vapours)</td>
<td>3.900 mg/l/4h</td>
</tr>
<tr>
<td>ATE (dust,mist)</td>
<td>3.900 mg/l/4h</td>
</tr>
</tbody>
</table>

**Heavy Aromatic Naptha Solvent (64742-94-5)**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>&gt; 5000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>&gt; 5.28 mg/l/4h</td>
</tr>
</tbody>
</table>

**naphthalene (91-20-3)**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>490 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>20 g/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>&gt; 340 mg/m³ 1 hour</td>
</tr>
<tr>
<td>ATE (oral)</td>
<td>490.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE (dermal)</td>
<td>20000.000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

**1,2,4-trimethylbenzene (95-63-6)**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>3415 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rat</td>
<td>3440 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>954 ppm</td>
</tr>
<tr>
<td>ATE (oral)</td>
<td>3415.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE (dermal)</td>
<td>3440.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE (dust,mist)</td>
<td>1.500 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified.

pH: 4 (1% emulsion)

A primary dermal irritation study was conducted on three albino rabbits. Slight was noticed upon initial observation, all effects were reversed by 72 hours. Maximum irritation score of 0.75. May be slightly irritating, but not sufficient for classification.
Serious eye damage/irritation: Causes eye irritation.

pH: 4 (1% emulsion)

An acute eye irritation study was conducted on three albino rabbits. Cornea Opacity was seen in up to two animals at intervals of 1, 24, 48, and 72 hours. Iritis was seen in one animal at all time intervals. Conjunctivae Redness and chemosis were seen initially in all animals. All effects seen were completely reversed by Day 4.

Respiratory or skin sensitisation: Not classified

Produced no skin irritation and did not elicit a skin sensitizing reaction in guinea pigs.

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation: Inhalation may cause: irritation, coughing, shortness of breath.

Symptoms/injuries after skin contact: May cause moderate irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Clethodim (99129-21-2)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes</td>
<td>&gt; 33 mg/l Lepomis macrochirus (Bluegill) - 96 hr 83.3% purity</td>
</tr>
<tr>
<td>EC50 Daphnia</td>
<td>20.2 mg/l</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>11.4 mg/l Green Algae</td>
</tr>
</tbody>
</table>

Naphthalene (91-20-3)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes</td>
<td>&gt; 0.91 (0.91 - 2.82) mg/l Oncorhynchus mykiss (From Koppers SDS)</td>
</tr>
<tr>
<td>EC50 Daphnia</td>
<td>&gt;= 1.96 mg/l From Koppers SDS</td>
</tr>
<tr>
<td>EC50 other aquatic organisms</td>
<td>33 mg/l From Sigma-Aldrich SDS</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>&gt; 1 (1 - 6.5) mg/l Pimpephales promelas (From Sigma-Aldrich SDS)</td>
</tr>
<tr>
<td>LOEC (acute)</td>
<td>3.2 mg/l From Sigma-Aldrich SDS</td>
</tr>
<tr>
<td>NOEC (acute)</td>
<td>1.8 mg/l From Sigma-Aldrich SDS</td>
</tr>
</tbody>
</table>

1,2,4-trimethylbenzene (95-63-6)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes</td>
<td>7.72 mg/l</td>
</tr>
<tr>
<td>LC50 other aquatic organisms</td>
<td>3.6 mg/l</td>
</tr>
<tr>
<td>EC50 other aquatic organisms</td>
<td>2.356 mg/l</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

Heavy Aromatic Naptha Solvent (64742-94-5)

Persistence and degradability: Not rapidly degradable.

Biodegradation: 39 %

#### 12.3. Bioaccumulative potential

Naphthalene (91-20-3)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>&gt;= 427 (427 - 1158)</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

Heavy Aromatic Naptha Solvent (64742-94-5)

Mobility in soil: Migrates to soil.

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.
Additional information: Handle empty containers with care because residual vapours are flammable. 
Ecology - waste materials: Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with 49CFR US DOT (Land)
- Non-bulk (≤ 119 gallons): Not regulated
- Bulk (>119 but <624 gallons): NA1993 Combustible liquid, n.o.s. (Heavy aromatic naphtha solvent), 3, III
- RQ Bulk (≥624 gallons): NA1993 Combustible liquid, n.o.s. (Heavy aromatic naphtha solvent), 3, III, RQ(Naphthalene)
- ERG: 128

Additional information
- Other information: No supplementary information available.

ADR
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Clethodim (99129-21-2)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory. Exempt under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

Naphthalene (91-20-3)
SARA Section 311/312 Hazard Classes
- Delayed (chronic) health hazard
- Immediate (acute) health hazard

1,2,4-trimethylbenzene (95-63-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

SHADOW® 3EC HERBICIDE

WHMIS Classification
- Class B Division 3 - Combustible Liquid
- Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
- Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Clethodim (99129-21-2)
Not listed on the Canadian DSL (Domestic Substances List) inventory.

1,2,4-trimethylbenzene (95-63-6)
Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

Clethodim (99129-21-2)
Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

1,2,4-trimethylbenzene (95-63-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Classification according to Regulation (EC) No. 1272/2008 [CLP]
- Carc. 2: H351
- STOT RE 2: H373
- Asp. Tox. 1: H304
- Aquatic Chronic 3: H412

Full text of H-phrases: see section 16
Classification according to Directive 67/548/EEC or 1999/45/EC
Xn; R20
Xn; R65
R52/53

15.2.2. National regulations
No additional information available

15.3. US State regulations
Not listed on any state Right-to-Know Hazardous Chemicals lists.

15.4. US EPA – FIFRA Regulations
This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word (FIFRA): Caution.
Hazard statements (FIFRA): Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with eyes or clothing. Wear protective eyewear, long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves (such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Viton, Selection Category F, G).

Environmental hazards: 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 apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate.
The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Use of this product is prohibited in the following areas where the species are known to exist:
Solano Grass: Solano County, California: the vernal lakes area bounded by the Union Pacific Railroad and Hastings Road to the north, Highway 113 to the east, Highway 12 to the south, and Travis Air Force Base to the west.
Wild Rice: Hays County, Texas.

Physical or Chemical hazards: Combustible: Do not store near heat or open flame.

SECTION 16: Other information
Indication of changes: Original Document.

Abbreviations and acronyms: ACGIH (American Conference of Governmental Industrial Hygienists).
ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
LD50: Lethal Dose for 50% of the test population.
OSHA: Occupational Safety & Health Administration.
STEL: Short Term Exposure Limits.
TSCA: Toxic Substances Control Act.
TWA: Time Weight Average.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Inhalation)</th>
<th>Acute toxicity (inhalation) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

04/30/2014  EN (English)  SDS ID: ALS_1400004  8/9
### SHADOW® 3EC HERBICIDE

#### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Inhalation:dust,mist)</td>
<td>Acute toxicity (inhalation:dust,mist) Category 4</td>
</tr>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral) Category 4</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment - Chronic Hazard Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment - Chronic Hazard Category 2</td>
</tr>
<tr>
<td>Asp. Tox. 1</td>
<td>Aspiration hazard Category 1</td>
</tr>
<tr>
<td>Carc. 2</td>
<td>Carcinogenicity Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Eye Irrit. 2B</td>
<td>Serious eye damage/eye irritation Category 2B</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids Category 3</td>
</tr>
<tr>
<td>Flam. Liq. 4</td>
<td>Flammable liquids Category 4</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>Skin Irrit. Not classified</td>
<td>Skin corrosion/irritation Not classified</td>
</tr>
<tr>
<td>STOT RE 2</td>
<td>Specific target organ toxicity (repeated exposure) Category 2</td>
</tr>
</tbody>
</table>

#### NFPA health hazard

1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

#### NFPA fire hazard

2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

#### NFPA reactivity

0 - Normally stable, even under fire exposure conditions, and not reactive with water.

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**SDS US (GHS HazCom 2012)**

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.