DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: RESICORE™ Herbicide

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number: 800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Skin sensitisation - Sub-category 1B
Specific target organ toxicity - single exposure - Category 3

Label elements
Hazard pictograms

Signal word: WARNING!
Hazards
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements
Prevention
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Mixture
This product is a mixture.

<table>
<thead>
<tr>
<th>Component</th>
<th>CASRN</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetochlor</td>
<td>34256-82-1</td>
<td>31.6%</td>
</tr>
<tr>
<td>Clopyralid monoethanolamine salt</td>
<td>57754-85-5</td>
<td>2.73%</td>
</tr>
<tr>
<td>Mesotrione</td>
<td>104206-82-8</td>
<td>2.9%</td>
</tr>
<tr>
<td>Furilazole</td>
<td>121776-33-8</td>
<td>1.0%</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>11.7%</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>2.2%</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>0.1%</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

Eye contact: Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Sulfur oxides. Phosphorus oxides. Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.
Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant fire fighting clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Avoid prolonged or repeated contact with skin. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

<table>
<thead>
<tr>
<th>Component</th>
<th>Regulation</th>
<th>Type of listing</th>
<th>Value/Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>US WEEL</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>Dow IHG</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Dow IHG</td>
<td>TWA</td>
<td>Absorbed via skin</td>
</tr>
<tr>
<td></td>
<td>Dow IHG</td>
<td>STEL</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Dow IHG</td>
<td>STEL</td>
<td>Absorbed via skin</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Xylene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>BEI</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>BEI</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>435 mg/m³ 100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.

Skin protection
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene, Neoprene, Polyethylene, Ethyl vinyl alcohol laminate (“EVAL”), Viton. Examples of acceptable glove barrier materials include: Butyl rubber, Natural rubber (“latex”), Nitrile/butadiene rubber (“nitrile” or “NBR”). Polyvinyl chloride (“PVC” or “vinyl”).

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Tan</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>2.99 pH Electrode</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point (760 mmHg)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>closed cup &gt; 100 °C ( &gt; 212 °F) Pensky-Martens Closed Cup ASTM D 93</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Relative Vapor Density (air = 1)</td>
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</tr>
<tr>
<td>Relative Density (water = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No significant increase (&gt;5C) in temperature.</td>
</tr>
<tr>
<td>Liquid Density</td>
<td>1.0857 g/ml at 20 °C (68 °F) Digital density meter</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
</tr>
</tbody>
</table>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Thermally stable at typical use temperatures.
Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Some components of this product can decompose at elevated temperatures.


Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides. Phosphorus oxides. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:
LD50, Rat, female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rat, male and female, > 2,000 mg/kg  OECD Test Guideline 402 No deaths occurred at this concentration.

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Mist may cause irritation of upper respiratory tract (nose and throat).

As product:
LC50, Rat, male and female, 4 Hour, dust/mist, 5.60 mg/l  OECD Test Guideline 403

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight corneal injury.

Sensitization
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**
For the active ingredient(s):
Acetochlor.
In animals, effects have been reported on the following organs:
Blood.
Kidney.
Liver.
Testes.
Central nervous system.

For the minor component(s):
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Lung.
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Carcinogenicity**
For the active ingredient(s): Acetochlor. Has caused cancer in laboratory animals. However, the relevance of this to humans is unknown.

**Teratogenicity**
For similar active ingredient(s). Clopyralid caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure.

For the active ingredient(s): Acetochlor. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive toxicity**
For the active ingredient(s): Acetochlor. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

**Mutagenicity**
For the active ingredient(s): Acetochlor. In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were predominantly negative.

**Aspiration Hazard**
Based on physical properties, not likely to be an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**Acetochlor**
Acute toxicity to fish
Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).
Material is highly toxic to fish on an acute basis (LC50 between 0.1 and 1.0 mg/L).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.36 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**
EC50, Daphnia magna (Water flea), 48 Hour, 8.6 mg/l, OECD Test Guideline 202 or Equivalent
EC50, eastern oyster (Crassostrea virginica), flow-through test, 96 Hour, 4.2 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**
EyC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth inhibition (cell density reduction), 0.00027 mg/l, OECD Test Guideline 201 or Equivalent
EyC50, Lemna minor (duckweed), 7 d, Growth inhibition (cell density reduction), 0.0027 mg/l, OECD 221.

**Toxicity to bacteria**
EC50, activated sludge, 3 Hour, > 1,000 mg/l

**Chronic toxicity to fish**
NOEC, Oncorhynchus mykiss (rainbow trout), 0.13 mg/l

**Chronic toxicity to aquatic invertebrates**
NOEC, Daphnia magna (Water flea), 21 d, 0.0221 mg/l

**Toxicity to Above Ground Organisms**
Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
oral LD50, Colinus virginianus (Bobwhite quail), 928mg/kg bodyweight.
dietary LC50, Colinus virginianus (Bobwhite quail), 5 d, > 5620mg/kg diet.
dietary LC50, Anas platyrhynchos (Mallard duck), 5 d, > 5620mg/kg diet.
oral LD50, Apis mellifera (bees), 48 Hour, > 100micrograms/bee
contact LD50, Apis mellifera (bees), 48 Hour, > 200micrograms/bee

**Toxicity to soil-dwelling organisms**
LC50, Eisenia fetida (earthworms), 14 d, 105.5 mg/kg

**Clopyralid monoethanolamine salt**

**Acute toxicity to fish**
For similar active ingredient(s).
Clopyralid.
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, > 99.9 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**
For similar active ingredient(s).
Clopyralid.
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 99.0 mg/l, OECD Test Guideline 202 or Equivalent

**Toxicity to Above Ground Organisms**
For similar active ingredient(s).
Clopyralid.
Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
For similar active ingredient(s).
Clopyralid.
oral LD50, Anas platyrhynchos (Mallard duck), 14 d, 1465 - 2000mg/kg bodyweight.
For similar active ingredient(s).
Clopyralid.
dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 5000mg/kg diet.
For similar active ingredient(s).
Clopyralid.
contact LD50, Apis mellifera (bees), 48 d, > 100micrograms/bee
For similar active ingredient(s).
Clopyralid.
oral LD50, Apis mellifera (bees), 48 d, > 98.1micrograms/bee

Mesotrione

**Acute toxicity to fish**
Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

**Acute toxicity to algae/aquatic plants**
EC50, Selenastrum capricornutum (green algae), 120 Hour, 3.5 mg/l
EC50, Lemna gibba, 14 d, 0.0077 mg/l

**Chronic toxicity to fish**
NOEC, Fish, 36 d, 12.5 mg/l

**Chronic toxicity to aquatic invertebrates**
NOEC, Daphnia (water flea), 21 d, 180 mg/l

**Toxicity to Above Ground Organisms**
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
oral LD50, Colinus virginianus (Bobwhite quail), > 2000mg/kg bodyweight.
dietary LC50, Colinus virginianus (Bobwhite quail), > 5200mg/kg diet.
oral LD50, Apis mellifera (bees), 48 Hour, > 11micrograms/bee
contact LD50, Apis mellifera (bees), 48 Hour, > 9.1micrograms/bee

**Toxicity to soil-dwelling organisms**
LC50, Eisenia fetida (earthworms), 14 d, survival, > 437.7 mg/kg

Furilazole

**Acute toxicity to fish**
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 4.6 mg/l, OECD Test Guideline 203
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 6.2 mg/l

**Acute toxicity to aquatic invertebrates**
EC50, Daphnia magna (Water flea), static test, 48 Hour, 26 mg/l

**Acute toxicity to algae/aquatic plants**
ErC50, Scenedesmus capricornutum (fresh water algae), static test, 72 Hour, Growth rate inhibition, 85.2 mg/l, OECD Test Guideline 201
NOEC, Scenedesmus capricornutum (fresh water algae), static test, 72 Hour, Growth rate inhibition, 12.5 mg/l, OECD Test Guideline 201

**Toxicity to Above Ground Organisms**
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
LD50, Colinus virginianus (Bobwhite quail), > 2,000 mg/kg
dietary LC50, Colinus virginianus (Bobwhite quail), 5 d, > 5,620 ppm
dietary LC50, Anas platyrhynchos (Mallard duck), 5 d, > 5,620 ppm

**Propylene glycol**

**Acute toxicity to fish**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**
LC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**
NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l

**Chronic toxicity to aquatic invertebrates**
NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

**Phosphoric acid**

**Acute toxicity to fish**
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).
May decrease pH of aquatic systems to < pH 5 which may be toxic to aquatic organisms.

**Xylene**

**Acute toxicity to fish**
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 2.6 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**
IC50, Daphnia magna (Water flea), 24 Hour, 1 - 4.7 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**
ErC50, Pseudokirchneriella subcapitata (algae), Static, 73 Hour, Growth rate, 4.36 mg/l,
OECD Test Guideline 201 or Equivalent
NOEC, Pseudokirchneriella subcapitata (green algae), 73 Hour, Growth rate, 0.44 mg/l, OECD Test Guideline 201 or Equivalent
Chronic toxicity to fish
NOEC, Oncorhynchus mykiss (rainbow trout), flow-through, 56 d, mortality, > 1.3 mg/l

Balance
Acute toxicity to fish
No relevant data found.

Persistence and degradability

Acetochlor
Biodegradability: No relevant information found.

Stability in Water (1/2-life)
Hydrolysis, pH 5, Stable
Hydrolysis, pH 7, Stable
Hydrolysis, pH 9, Stable

Photodegradation
Atmospheric half-life: 2.3 Hour
Method: Estimated.

Clopyralid monoethanolamine salt
Biodegradability: For similar active ingredient(s). Clopyralid. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Mesotrione
Biodegradability: No appreciable biodegradation is expected.

Furilazole
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
Biodegradation: 1 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Propylene glycol
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
10-day Window: Pass
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg
Chemical Oxygen Demand: 1.53 mg/mg

**Biological oxygen demand (BOD)**

<table>
<thead>
<tr>
<th>Incubation Time</th>
<th>BOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 d</td>
<td>69.000 %</td>
</tr>
<tr>
<td>10 d</td>
<td>70.000 %</td>
</tr>
<tr>
<td>20 d</td>
<td>86.000 %</td>
</tr>
</tbody>
</table>

Photodegradation
Atmospheric half-life: 10 Hour
Method: Estimated.

**Phosphoric acid**
Biodegradability: Biodegradation is not applicable.

Theoretical Oxygen Demand: 0.00 mg/mg Calculated.

**Xylene**
Biodegradability: Material is expected to be readily biodegradable.
10-day Window: Pass
Biodegradation: > 60 %
Exposure time: 10 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 3.17 mg/mg

**Biological oxygen demand (BOD)**

<table>
<thead>
<tr>
<th>Incubation Time</th>
<th>BOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 d</td>
<td>37.000 %</td>
</tr>
<tr>
<td>10 d</td>
<td>58.000 %</td>
</tr>
<tr>
<td>20 d</td>
<td>72.000 %</td>
</tr>
</tbody>
</table>

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 19.7 Hour
Method: Estimated.

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential

**Acetochlor**
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water (log Pow): 4.14 Measured
Bioconcentration factor (BCF): 20

**Clopyralid monoethanolamine salt**
Bioaccumulation: For similar active ingredient(s). Clopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Mesotrione
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: \textit{n-octanol/water (log Pow)}: Pow: 0.11 at 20 °C

Furilazole
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: \textit{n-octanol/water (log Pow)}: 2.12 Estimated.

Propylene glycol
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: \textit{n-octanol/water (log Pow)}: -1.07 Measured
Bioconcentration factor (BCF): 0.09 Estimated.

Phosphoric acid
Bioaccumulation: Partitioning from water to n-octanol is not applicable. Partitioning from water to n-octanol is not applicable.

Xylene
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: \textit{n-octanol/water (log Pow)}: 3.12 Measured
Bioconcentration factor (BCF): 25.9 Rainbow trout (Salmo gairdneri) Measured

Balance
Bioaccumulation: No relevant data found.

Mobility in soil

Acetochlor
Potential for mobility in soil is medium (Koc between 150 and 500).
Partition coefficient (Koc): 156 Estimated.

Clopyralid monoethanolamine salt
For similar active ingredient(s). Clopyralid.
Potential for mobility in soil is very high (Koc between 0 and 50).

Mesotrione
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 19 - 390

Furilazole
Potential for mobility in soil is high (Koc between 50 and 150).
Partition coefficient (Koc): 56 - 341

Propylene glycol
Given its very low Henry’s constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): < 1 Estimated.

Phosphoric acid
No relevant data found.

**Xylene**
Potential for mobility in soil is medium (Koc between 150 and 500).
**Partition coefficient (Koc):** 443 Estimated.

**Balance**
No relevant data found.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

### 14. TRANSPORT INFORMATION

**DOT**
Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acetochlor)
- **UN number:** UN 3082
- **Class:** 9
- **Packing group:** III
- **Marine pollutant:** Acetochlor
- **Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code:** Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**
- **Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s. (Acetochlor)
- **UN number:** UN 3082
- **Class:** 9
- **Packing group:** III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional
transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Immediate (acute) Health Hazard
Delayed (chronic) Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

<table>
<thead>
<tr>
<th>Components</th>
<th>CASRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
</tr>
</tbody>
</table>

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

16. OTHER INFORMATION

Hazard Rating System
NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
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</tbody>
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Revision
Identification Number: 102977308 / A211 / Issue Date: 09/08/2015 / Version: 1.0
DAS Code: GF-3471
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.
Legend

<table>
<thead>
<tr>
<th>Legend</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorbed via skin</td>
<td>Absorbed via skin</td>
</tr>
<tr>
<td>ACGIH</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>BEI</td>
<td>Biological Exposure Indices</td>
</tr>
<tr>
<td>Dow IHG</td>
<td>Dow Industrial Hygiene Guideline</td>
</tr>
<tr>
<td>OSHA Z-1</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>8-hour, time-weighted average</td>
</tr>
<tr>
<td>US WEEL</td>
<td>USA. Workplace Environmental Exposure Levels (WEEL)</td>
</tr>
</tbody>
</table>

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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