Dow AgroSciences Canada Inc. 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. Product and Company Identification

Product Name
Restore* II Herbicide

COMPANY IDENTIFICATION
Dow AgroSciences Canada Inc.
A Subsidiary of The Dow Chemical Company
Suite 2100, 450 1st Street SW
Calgary, AB T2P 5H1
Canada

For MSDS updates and Product Information: 800-667-3852

Revision 2012.08.21

Customer Information Number: 800-667-3852
solutions@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 613-996-6666
Local Emergency Contact: 613-996-6666

2. Hazards Identification

Emergency Overview
Color: Yellow to orange
Physical State: Liquid
Odor: Mild

Hazards of product:

CAUTION! May cause eye irritation. Isolate area. Toxic fumes may be released in fire situations.
Potential Health Effects
Eye Contact: May cause moderate eye irritation. May cause slight corneal injury.
Skin Contact: Brief contact may cause slight skin irritation with local redness.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Inhalation: Prolonged exposure is not expected to cause adverse effects. Based on the available data, respiratory irritation was not observed.
Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Aspiration hazard: Based on available information, aspiration hazard could not be determined.
Effects of Repeated Exposure: For the active ingredient(s): In animals, effects have been reported on the following organs: Adrenal gland. Bone marrow. Eye. Gastrointestinal tract. Kidney. Liver. Spleen. Testes. Thyroid. For the minor component(s): In animals, effects have been reported on the following organs: Kidney. Liver. In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.
Birth Defects/Developmental Effects: For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.
Reproductive Effects: For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount W/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D Dimethylamine Salt</td>
<td>2008-39-1</td>
<td>41.26 %</td>
</tr>
<tr>
<td>Aminopyralid Triisopropanolamine Salt</td>
<td>566191-89-7</td>
<td>8.24 %</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>5.0 %</td>
</tr>
<tr>
<td>Balance</td>
<td>Not available</td>
<td>45.5 %</td>
</tr>
</tbody>
</table>

Amounts are presented as percentages by weight.

4. First-aid measures

Description of first aid measures
General advice: 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. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. Never give anything by mouth to an unconscious person.

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), no additional symptoms and effects are anticipated.
Indication of immediate medical attention and special treatment needed
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. Fire Fighting Measures

Suitable extinguishing media
To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Special hazards arising from the substance or mixture
Hazardous Combustion Products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Ammonia.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. 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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

See Section 9 for related Physical Properties

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.

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

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

Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>WEEL</td>
<td>TWA</td>
<td>10 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aerosol.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAD ON OEL</td>
<td>TWAEV</td>
<td>155 mg/m3 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total vapor and aerosol.</td>
<td></td>
</tr>
</tbody>
</table>

Consult local authorities for recommended exposure limits.
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.

Personal Protection

Eye/Face Protection: Use chemical goggles.
Skin 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.
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber (“latex”). Neoprene, Nitrile/butadiene rubber (“nitrile” or “NBR”). Polyethylene. Ethyl vinyl alcohol laminate (“EVAL”). 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.
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. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.
Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: 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.

9. Physical and Chemical Properties

Appearance
  Physical State: Liquid
  Color: Yellow to orange
  Odor: Mild
  Odor Threshold: No test data available
  pH: 6.69 (@ 1 %) pH Electrode (1% aqueous suspension)
  Melting Point: Not applicable
Freezing Point
Boiling Point (760 mmHg)
Flash Point - Closed Cup
Evaporation Rate
(Butyl Acetate = 1)
Flammable Limits In Air
Lower: No test data available
Upper: No test data available
Vapor Pressure
Vapor Density (air = 1)
Specific Gravity (H2O = 1)
Solubility in water
(by weight)
Partition coefficient,
n-octanol/water (log Pow)
Autoignition Temperature
Decomposition
Temperature
Liquid Density
No test data available
No test data available
> 100 °C Pensky-Martens Closed Cup ASTM D 93
No test data available
No test data available
No test data available
No test data available
No test data available
No data available for this product. See Section 12 for individual component data.
No test data available
No test data available
No test data available
1.173 g/ml @ 20 °C Digital density meter

10. Stability and Reactivity

Reactivity
No dangerous reaction known under conditions of normal use.

Chemical stability
Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions
Polymerization will not occur.

Conditions to Avoid: Some components of this product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.


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: Ammonia. Hydrogen chloride. Nitrogen oxides. Toxic gases are released during decomposition.

11. Toxicological Information

Acute Toxicity
Ingestion
As product: LD50, rat, female > 2,000 mg/kg
Dermal
As product: LD50, rat, male and female > 5,000 mg/kg
Inhalation
As product: LC50, 4 h, Liquid aerosol., rat > 5.26 mg/l

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

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

Sensitization
Skin
Did not demonstrate the potential for contact allergy in mice.
Respiratory
No relevant data found.
Repeated Dose Toxicity
For the active ingredient(s): In animals, effects have been reported on the following organs: Adrenal gland. Bone marrow. Eye. Gastrointestinal tract. Kidney. Liver. Spleen. Testes. Thyroid. For the minor component(s): In animals, effects have been reported on the following organs: Kidney. Liver. In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Chronic Toxicity and Carcinogenicity
For similar active ingredient(s). Aminopyralid. Did not cause cancer in laboratory animals. For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. Available data are inadequate to evaluate carcinogenicity. Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative.

Developmental Toxicity
For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. For similar active ingredient(s). Aminopyralid. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive Toxicity
For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring. For similar active ingredient(s). Aminopyralid. In animal studies, did not interfere with reproduction.

Genetic Toxicology
For the active ingredient(s): 2,4-D SALTS Aminopyralid. In vitro genetic toxicity studies were predominantly negative. For the active ingredient(s): Animal genetic toxicity studies were inconclusive

12. Ecological Information

Toxicity
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Lepomis macrochirus (Bluegill sunfish), semi-static test, 96 h: 83 mg/l

Aquatic Invertebrate Acute Toxicity
EC50, Daphnia magna (Water flea), static test, 48 h, immobilization: > 100 mg/l
EC50, eastern oyster (Crassostrea virginica), flow-through test, 96 h, shell growth inhibition: 96 mg/l

Persistence and Degradability

Data for Component: 2,4-D Dimethylamine Salt
Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).
Stability in Water (1/2-life):
0.5 - 11 d
Biological oxygen demand (BOD):
<table>
<thead>
<tr>
<th>BOD 5</th>
<th>BOD 10</th>
<th>BOD 20</th>
<th>BOD 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 %</td>
<td>100 %</td>
<td>100 %</td>
<td></td>
</tr>
</tbody>
</table>

Chemical Oxygen Demand: 0.72 mg/mg

Data for Component: Aminopyralid Triisopropanolamine Salt
For similar material(s): Aminopyralid. Material is not readily biodegradable according to OECD/EEC guidelines.

Data for Component: Propylene glycol
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 %</td>
<td>28 d</td>
<td>OECD 301F Test</td>
<td>pass</td>
</tr>
<tr>
<td>96 %</td>
<td>64 d</td>
<td>OECD 306 Test</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Indirect Photodegradation with OH Radicals

<table>
<thead>
<tr>
<th>Rate Constant</th>
<th>Atmospheric Half-life</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.28E-11 cm3/s</td>
<td>10 h</td>
<td>Estimated.</td>
</tr>
</tbody>
</table>

Biological oxygen demand (BOD):

<table>
<thead>
<tr>
<th>BOD 5</th>
<th>BOD 10</th>
<th>BOD 20</th>
<th>BOD 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.000 %</td>
<td>70.000 %</td>
<td>86.000 %</td>
<td></td>
</tr>
</tbody>
</table>

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

Bioaccumulative potential

Data for Component: **2,4-D Dimethylamine Salt**
- **Bioaccumulation**: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
- **Partition coefficient, n-octanol/water (log Pow)**: 0.65; Measured
- **Bioconcentration Factor (BCF)**: 0.1 - 0.47; Fish; Measured

Data for Component: **Aminopyralid Triisopropanolamine Salt**
- **Bioaccumulation**: For similar active ingredient(s), Aminopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Data for Component: **Propylene glycol**
- **Bioaccumulation**: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
- **Partition coefficient, n-octanol/water (log Pow)**: -1.07; Measured
- **Bioconcentration Factor (BCF)**: 0.09; Estimated.

Mobility in soil

Data for Component: **2,4-D Dimethylamine Salt**
- **Mobility in soil**: Potential for mobility in soil is high (Koc between 50 and 150).
- **Partition coefficient, soil organic carbon/water (Koc)**: 72 - 136; Measured
- **Henry’s Law Constant (H)**: 1.45E-16 atm*m3/mole; 25 °C; Estimated using a bond contribution method.

Data for Component: **Aminopyralid Triisopropanolamine Salt**
- **Mobility in soil**: For similar active ingredient(s), Aminopyralid. Potential for mobility in soil is very high (Koc between 0 and 50).

Data for Component: **Propylene glycol**
- **Mobility in soil**: 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, soil organic carbon/water (Koc)**: < 1; Estimated.
- **Henry’s Law Constant (H)**: 1.2E-08 atm*m3/mole; Measured

13. Disposal Considerations

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. The 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

TDG Small container
NOT REGULATED

TDG Large container
NOT REGULATED

IMDG
NOT REGULATED

ICAO/IATA
NOT REGULATED

15. Regulatory Information

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Hazardous Products Act Information: CPR Compliance
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification
This product is exempt under WHMIS.

Pest Control Products Act Registration number: 30632

National Fire Code of Canada
Not applicable

16. Other Information

Hazard Rating System

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Recommended Uses and Restrictions

Identified uses
Product use: End use herbicide product

Revision

Identification Number: 1045428 / 1023 / Issue Date 2012.08.21 / Version: 1.0
DAS Code: GF-2633
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

<table>
<thead>
<tr>
<th>N/A</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>W/W</td>
<td>Weight/Weight</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
</tbody>
</table>
Dow AgroSciences Canada Inc. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer’s/user’s responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer’s/user’s duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists, Inc.</td>
</tr>
<tr>
<td>DOW IHG</td>
<td>Dow Industrial Hygiene Guideline</td>
</tr>
<tr>
<td>WEEL</td>
<td>Workplace Environmental Exposure Level</td>
</tr>
<tr>
<td>HAZ DES</td>
<td>Hazard Designation</td>
</tr>
<tr>
<td>VOL/VOL</td>
<td>Volume/Volume</td>
</tr>
</tbody>
</table>