

1

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE

Version 1.0 / CDN
1020000303351/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

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

Product identifier
Trade name NAVIUS™ VM HERBICIDE
Product code (UVP) 84087025
SDS Number 102000030335
PCP Registration No. 31382
Relevant identified uses of the substance or mixture and uses advised against
Use Herbicide
Restrictions on use See product label for restrictions.
Information on supplier
Supplier Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada
Responsible Department Email: SDSINFO.BCS-NA@bayer.com
Emergency telephone no.
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577
Product Information Telephone Number 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations
This material is not hazardous under the criteria of Part 2 of the Hazardous Products Regulation.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Aminocyclopyrachlor	856956-08-8	39.5
Metsulfuron-methyl	74223-64-6	12.6

EXHIBIT NUMBER: 300-100-100-100
File Name: 100-100-100-100
Issued by: (Communication Customer)

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE

Version 1.0 / CDN
1020000303352/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

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 No symptoms known or expected.
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 Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
Unsuitable None known.
Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.
Advice for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Special protective equipment for firefighters
Further information 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 Not applicable

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE

Version 1.0 / CDN
1020000303353/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

Auto-ignition temperature No data available
Lower explosion limit Not applicable
Upper explosion limit Not applicable
Explosivity No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods and materials for containment and cleaning up
Methods for cleaning up Avoid dust formation. Use approved industrial vacuum cleaner for removal. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice 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 Handle and open container in a manner as to prevent spillage. Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.
Advice on protection against fire and explosion Keep away from heat and sources of ignition.
Hygiene measures 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

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE

Version 1.0 / CDN
1020000303354/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
No control parameters known.
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 nitrile rubber gloves
Eye protection Safety glasses with side-shields
Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance light tan
Physical State extrusion granulate
Odor slightly ammonia-like
Odour Threshold No data available
pH 5.7 at 1% (as aqueous solution)
Vapor Pressure No data available
Vapor Density (Air = 1) No data available
Bulk density 560 kg/m3
Evaporation rate Not applicable
Boiling Point Not applicable
Melting / Freezing Point Not applicable
Water solubility dispersible

SAFETY DATA SHEET



NAVIUSTM VM HERBICIDE

Version 1.0 / CDN
1020009030355/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

Minimum Ignition Energy	No data available
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	Not applicable
Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosivity	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation, Ingestion
Immediate Effects	
Eye	May cause eye irritation.

Information on toxicological effects

Acute oral toxicity	LD50 (female Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 5.18 mg/l Exposure time: 4 h

SAFETY DATA SHEET



NAVIUSTM VM HERBICIDE

Version 1.0 / CDN
1020009030357/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

Environmental precautions	aminocyclopyrachlor. EC50 (Raphidocelis subcapitata (freshwater green alga)) > 122 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient aminocyclopyrachlor. EC50 (Anabaena flos-aquae (cyanobacterium)) 0.066 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient metsulfuron methyl. EC50 (Lemna minor (common duckweed)) 0.00036 mg/l Exposure time: 14 d The value mentioned relates to the active ingredient metsulfuron methyl.
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 allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	
Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

SECTION 14: TRANSPORT INFORMATION

TDG	
UN number	3077
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METSULFURON-METHYL)

SAFETY DATA SHEET



NAVIUSTM VM HERBICIDE

Version 1.0 / CDN
1020009030356/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

Acute dermal toxicity	LD50 (male/female combined Rat) > 5,000 mg/kg
Skin irritation	No skin irritation (Rabbit)
Eye irritation	Moderate eye irritation. (Rabbit)
Sensitisation	Non-sensitizing. (Mouse)
ACGIH	
None.	
NTP	
None.	
IARC	
None.	
OSHA	
None.	

Further information

Only acute toxicity studies have been performed on the formulated product.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 122 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor. LC50 (Lepomis macrochirus (Bluegill sunfish)) > 120 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor. LC50 (Oncorhynchus mykiss (rainbow trout)) > 150 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient metsulfuron methyl.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 43 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor. EC50 (Daphnia magna (Water flea)) > 120 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient metsulfuron methyl.
Toxicity to aquatic plants	EC50 (Anabaena flos-aquae (cyanobacterium)) 7.4 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient

SAFETY DATA SHEET



NAVIUSTM VM HERBICIDE

Version 1.0 / CDN
1020009030358/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

49CFR	Not dangerous goods / not hazardous material
IMDG	
UN number	3077
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METSULFURON-METHYL MIXTURE)
IATA	
UN number	3077
Class	9
Packaging group	III
Environment. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METSULFURON-METHYL MIXTURE)

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.

Further Information	Exempt from regulation when transported by road or rail, in accordance with TDG Regulations 1.45.1. This exemption provides that this product does not require dangerous goods shipping documentation or safety marks when transported on land by road or rail.
---------------------	--

SECTION 15: REGULATORY INFORMATION

PCP Registration No.	31382
US Federal Regulations	
TSCA list	
None.	
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.	

3

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE
Version 1.0 / CDN
10200030335

9/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

US State Right-To-Know Ingredients
None.

Canadian Regulations
Canadian Domestic Substance List
None.

Environmental
CERCLA
None.
Clean Water Section 307 Priority Pollutants
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US, ACGIH Threshold Limit Values
CAS-Nr. Chemical Abstracts Service number
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC US, IARC Monographs on Occupational Exposures to Chemical Agents
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
N.O.S. Not otherwise specified
NTP US, National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development
TDG Transportation of Dangerous Goods
TWA Time weighted average
UN United Nations
WHO World health organisation
NFPA 704 (National Fire Protection Association):
Health - 1 Flammability - 1 Instability - 0 Others - none
HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)
Health - 1 Flammability - 1 Physical Hazard - 0 PPE -
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: New Safety Data Sheet.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

SAFETY DATA SHEET



NAVIUS™ VM HERBICIDE
Version 1.0 / CDN
10200030335

10/10
Revision Date: 02/11/2016
Print Date: 02/12/2016

Revision Date: 02/11/2016

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.



Material Safety Data Sheet
DOW AGROSCIENCES CANADA INC.

Product name: Aspect® Herbicide Issue Date: 01/15/2015

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: Aspect® Herbicide

Recommended use of the chemical and restrictions on use
Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES CANADA INC.
2100 450 1st STREET SW
CALGARY AB T2P 5H1
CANADA

For MSDS Updates and Product Information: 800-667-3852
Prepared by: Prepared for use in Canada by EH&S, Hazard Communications.
Revision Date: 01/15/2015

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

Appearance
Physical state Liquid
Color amber
Odor Amine

Hazard Summary WARNING!!
May cause allergic skin reaction.
May cause eye irritation.
Isolate area.
Highly toxic to fish and/or other aquatic organisms.

Product name: Aspect® Herbicide Issue Date: 01/15/2015

Potential Health Effects

Eyes: May cause moderate eye irritation.
May cause slight corneal injury.

Skin: Brief contact may cause slight skin irritation with local redness.
Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Has demonstrated the potential for contact allergy in mice.

Inhalation: No adverse effects are anticipated from single exposure to mist.
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.
Symptoms may include tremors.
Lethargy.

Chronic Exposure: For similar active ingredient(s).
2,4-Dichlorophenoxyacetic acid.
In animals, effects have been reported on the following organs:
Liver,
Kidney,
Gastrointestinal tract.
Muscles.
Observations in animals include:
Gastrointestinal irritation.
Vomiting.
In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Mixture
This product is a mixture.

Table with 3 columns: Component, CASRN, Weight percent. Rows include 2,4-D choline salt, Pictoram trisopropanolamine salt, Propylene glycol, Trisopropanolamine, and Balance.

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. Suitable emergency safety shower facility should be available in work area.

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: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. 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), 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: Maintain adequate ventilation and oxygenation of the patient. 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: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: 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: 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. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. 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.

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: 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.

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. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Table with 2 columns: Property and Value. Properties include Physical state (Liquid), Color (amber), Odor (Amine), Odor Threshold (no data available), pH (6.89 pH Electrode), Melting point/Range (Not applicable), Freezing point (No data available), Boiling point (760 mmHg) (no data available), Flash point (closed cup > 100 °C), Evaporation Rate (Butyl Acetate = 1) (no data available), Flammability (solid, gas) (Not Applicable), Lower explosion limit (no data available), Upper explosion limit (no data available), Vapor Pressure (no data available), Relative Vapor Density (air = 1) (no data available), Relative Density (water = 1) (no data available).

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 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: Spills or discharge to natural waterways is likely to kill aquatic organisms. 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

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. 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. Do not store in: Galvanized containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Table with 4 columns: Component, Regulation, Type of listing, Value/Notation. Rows include Propylene glycol (US WEL, TWA, 10 mg/m3; CA ON OEL, TWA/EV Total, 155 mg/m3 50 ppm; CA ON OEL, TWA/EV, 10 mg/m3; CA ON OEL, TWA, 155 mg/m3 50 ppm; CA ON OEL, TWA, 10 mg/m3) and Trisopropanolamine (Dow IHG, TWA, 10 mg/m3).

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.

Table with 2 columns: Property and Value. Properties include Water solubility (no data available), Partition coefficient: n-octanol/water (no data available), Auto-ignition temperature (no data available), Decomposition temperature (no data available), Dynamic Viscosity (42.3 mPa.s at 20.1 °C 16.1 mPa.s at 40.1 °C), Kinematic Viscosity (no data available), Explosive properties (No), Oxidizing properties (No significant increase (>5C) in temperature), Liquid Density (1.2045 g/ml at 20 °C Digital density meter), Molecular weight (no data available).

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

10. STABILITY AND REACTIVITY

Reactivity: Stable

Chemical stability: Stable

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Bases Avoid contact with metals such as: Galvanized metals.

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 (CO2)

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity: 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. Symptoms may include tremors. Lethargy.

As product: LD50, Rat, female, 2,500 mg/kg

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

As product: LD50, Rat, male and female, > 5,000 mg/kg



Acute Inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

As product:
LC50, Rat, male and female, 4 Hour, dust/mist, > 6.05 mg/l No deaths occurred at this concentration.

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)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For similar active ingredient(s):
2,4-Dichlorophenoxyacetic acid.
In animals, effects have been reported on the following organs:

Liver.
Kidney.
Gastrointestinal tract.
Muscles.
Observations in animals include:
Gastrointestinal irritation.
Vomiting.

Carcinogenicity
For similar active ingredient(s): Picloram. Did not cause cancer in laboratory animals.

For similar active ingredient(s): 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.

Teratogenicity
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): Picloram. 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): Picloram. In animal studies, did not interfere with reproduction.

Picloram trisopropanolamine salt

Biodegradability: For similar active ingredient(s): Picloram. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable, however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Biodegradation may occur under aerobic conditions (in the presence of oxygen). Surface photodegradation is expected with exposure to sunlight.

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: 95 %
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)

Incubation Time	BOD
5 d	69.000 %
10 d	70.000 %
20 d	86.000 %

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

Trisopropanolamine

Biodegradability: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). Biodegradation rate may increase in soil and/or water with acclimation. Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 2.35 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: Radicaux OH
Atmospheric half-life: 3 Hour
Method: Estimated.

Balance

Biodegradability: No relevant data found.

Mutagenicity
Animal genetic toxicity studies were negative. In vitro genetic toxicity studies were negative.

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

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Acute toxicity to fish
For similar active ingredient(s):
2,4-Dichlorophenoxyacetic acid.
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

As product:
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 102 mg/l

Acute toxicity to aquatic invertebrates

As product:
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 96 mg/l

Acute toxicity to algae/aquatic plants

As product:
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, > 100 mg/l

For similar material(s):
EC50, Lemna gibba, 14 d, 0.58 mg/l

Toxicity to Above Ground Organisms

As product:
Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

oral LD50, Colinus virginianus (Bobwhite quail), 1247mg/kg bodyweight.

contact LD50, Apis mellifera (bees), 48 Hour, > 200µg/bee

oral LD50, Apis mellifera (bees), 48 Hour, 190.6µg/bee

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, > 1,000 mg/kg

Persistence and degradability**2,4-D choline salt**

Biodegradability: For similar active ingredient(s): Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Bioaccumulative potential**2,4-D choline salt**

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

Picloram trisopropanolamine salt

Bioaccumulation: No data available for this product. For similar active ingredient(s): Picloram. Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

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.

Trisopropanolamine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.015 at 23 °C Measured
Bioconcentration factor (BCF): < 0.57 Fish, 42 d Measured

Balance

Bioaccumulation: No relevant data found.

Mobility in soil**2,4-D choline salt**

For similar active ingredient(s):
Potential for mobility in soil is high (Koc between 50 and 150).
Partition coefficient(Koc): 20 - 136 Measured

Picloram trisopropanolamine salt

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

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.

Trisopropanolamine

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 10 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

6

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 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-D Salt) UN number UN 3082 Class 9 Packing group III Marine pollutant 2,4-D Salt

Classification for SEA transport (IMO-IMDG): Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-D Salt) UN number UN 3082 Class 9 Packing group III Marine pollutant 2,4-D Salt Transport in bulk Consult IMO regulations before transporting ocean bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code

Classification for AIR transport (IATA/ICAO): Proper shipping name Environmentally hazardous substance, liquid, n.o.s.(2,4-D Salt) UN number UN 3082 Class 9 Packing group III

Further information: NOT REGULATED PER TDG EXEMPTION 1.45.1 FOR ROAD OR RAIL

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

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.

National Fire Code of Canada Not applicable

Canadian Domestic Substances List (DSL) (DSL) This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements.

Pest Control Products Act Registration Number: 31641

16. OTHER INFORMATION

Hazard Rating System NFPA table with columns Health, Fire, Reactivity and values 1, 1, 0

Revision Identification Number: 101296745 / A215 / Issue Date: 01/15/2015 / Version: 1.1 DAS Code: GF-2766

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend table with columns CA ON OEL, Canada, Ontario OELs, Dow IHG, Dow Industrial Hygiene Guideline, TWA, 8-hr TWA, TWAEV, lime-weighted average exposure value, US WEEL, USA, Workplace Environmental Exposure Levels (WEEL)

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.

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.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268 Effective Date: 8-Aug-06 Product Code: 106732

FORESTRY GARLON® XRT HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION: PRODUCT: Forestry Garlon® XRT Herbicide

COMPANY IDENTIFICATION: Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS: EMERGENCY OVERVIEW Amber liquid. May cause eye and skin irritation. Toxic to aquatic organisms and birds. EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS: Table with columns COMPONENT, CAS NUMBER, W/W% containing Triclopyr-butyl and Balance

4. FIRST AID: EYE: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: 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.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, and 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.

NOTE 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 MSDS, 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: FLASH POINT: >200°F (>93.3°C) METHOD USED: Not applicable

FLAMMABLE LIMITS LFL: Not determined UFL: Not determined

EXTINGUISHING MEDIA: Foam, CO2, or Dry chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES: ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as sand, sawdust, Zorbal, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container in a well-ventilated area.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994 Dow AgroSciences LLC Indianapolis, IN 46268 Effective Date: 8-Aug-06 Product Code: 106732

FORESTRY GARLON® XRT HERBICIDE

8. EXPOSURE CONTROLS/PERSONAL PROTECTION: These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: 3,5,6-trichloro-2-pyridinyloxyacetic acid: Dow AgroSciences Industrial Hygiene Guide is 2 mg/M3 as acid equivalent, Skin.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use chemical protective clothing resistant to this material, when there is any possibility of skin contact. 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. Wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

HAND PROTECTION: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber, Polyethylene, Neoprene, Chlorinated polyethylene, Ethyl vinyl alcohol laminate (EVAL). Examples of acceptable glove barrier materials include: Viton, Natural rubber (Latex), Polyvinyl chloride (PVC or vinyl), Nitrile/butadiene rubber (Nitrile or NBR). 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: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES: APPEARANCE: Amber liquid ODOR: None DENSITY: 1.251 g/mL

10. STABILITY AND REACTIVITY: STABILITY: (CONDITIONS TO AVOID) Combustible. Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acids, bases and oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, hydrogen chloride, and phosgene may result under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 8-Aug-06
Product Code: 106732

FORESTRY GARLON® XRT HERBICIDE

11. TOXICOLOGICAL INFORMATION:

EYE: May cause moderate eye irritation. May cause moderate corneal injury.

SKIN: Brief contact may cause slight skin irritation with local redness. May cause peeling of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Has caused allergic skin reactions when tested in mice. The dermal LD₅₀ for rats is >5,000 mg/kg.

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. The oral LD₅₀ for female rats is 2,966 mg/kg.

INHALATION: Prolonged excessive exposure may cause adverse effects. The aerosol LC₅₀ for male and female rats is >5.90 mg/L for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For the active ingredient, in animals, effects have been reported on the following organs: blood, kidney and liver.

CANCER INFORMATION: Similar active ingredient(s) did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): The active ingredient did not cause birth defects in laboratory animals. Has been toxic to the fetus in laboratory animals only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: For a similar active ingredient, 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, in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING: Bioconcentration potential is moderate (BCF is between 100 and 3000 or Log Pow between 3 and 5).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for triclopyr-butylol.

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/IEC tests for ready biodegradability.

ECOTOXICOLOGY:

Based largely or completely on information for triclopyr-butylol.

Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested).

Material is slightly toxic to birds on an acute basis (LD₅₀ is between 501 and 2000 mg/kg). Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 ppm).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: 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 and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For all shipments by all modes of transportation: This material is not regulated for transport.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 8-Aug-06
Product Code: 106732

FORESTRY GARLON® XRT HERBICIDE

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented 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 from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

16. OTHER INFORMATION:

MSDS STATUS: New

Reference: TIME: 19977
Replaces RSSDS Dated: 31-Mar-06
Document Code: D03-336-001

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

3

4



Material Safety Data Sheet

Dow AgroSciences Canada Inc.

Product Name: Clearview® Herbicide

Issue Date: 2012.04.10

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
Clearview® 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

Prepared By: Prepared for use in Canada by EH&S, Hazard Communications
Revision: 2012.04.10

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: Brown
Physical State: Granules
Odor: Mild
Hazards of product:

CAUTION! May cause eye irritation. May cause skin irritation. Powdered material may form explosive dust-air mixture. Isolate area. Toxic fumes may be released in fire situations. Slipping hazard.

TM * Trademark of Dow AgroSciences LLC

Page 1 of 9

Product Name: Clearview® Herbicide

Issue Date: 2012.04.10

Potential Health Effects

Eye Contact: May cause moderate eye irritation. May cause slight corneal injury. Solid or dust may cause irritation or corneal injury due to mechanical action.
Skin Contact: Brief contact may cause moderate skin irritation with local redness.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Inhalation: Inhalation is unlikely due to physical state. No adverse effects are anticipated from single exposure to dust.
Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.
Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.
Effects of Repeated Exposure: For similar active ingredient(s), Aminopyralid. In animals, effects have been reported on the following organs: Gastrointestinal tract.
Cancer Information: Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies.

3. Composition/information on ingredients

Component	CAS #	Amount ww
Aminopyralid Potassium	566191-87-5	62.13 %
Metsulfuron-methyl	74223-64-6	9.45 %
Titanium dioxide	13463-67-7	0.1 %
Kaolin	1332-68-7	>= 0.2 - <= 5.2 %
Balance	Not available	>= 23.12 - <= 28.12 %

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. Suitable emergency safety shower facility should be available in work area.

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), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed
May cause injury due to mechanical action. 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.

Page 2 of 9



5. Fire Fighting Measures

Suitable extinguishing media
Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

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: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.
Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.
Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Move container from fire area if this is possible without hazard. 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. Spilled material may cause a slipping hazard. 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: 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. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing dust or mist. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product. Keep away from heat, sparks and flame.
Storage
Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. Exposure Controls / Personal Protection

Table with columns: Component, List, Type, Value. Rows include Titanium dioxide and Kaolin with various exposure limits and respiratory protection requirements.

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: Polyvinyl chloride ("PVC" or "vinyl"), Neoprene, Nitrile/butadiene rubber ("nitrile" or "NBR"). 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, in dusty atmospheres, use an

approved particulate 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. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Table with columns: Appearance, Physical State, Color, Odor, pH, Melting Point, Freezing Point, Boiling Point (760 mmHg), Flash Point - Closed Cup, Evaporation Rate (Butyl Acetate = 1), Flammable Limits in Air, 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, Dynamic Viscosity, Kinematic Viscosity, Liquid Density, Bulk Density.

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: Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.
Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.
Hazardous decomposition products
Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. Toxicological Information

Acute Toxicity
Ingestion
As product: LD50, rat, female > 5,000 mg/kg
Dermal
As product: LD50, rat, male and female > 5,000 mg/kg
Inhalation
LC50, 4 h, Aerosol, rat, male and female > 5.09 mg/l
Eye damage/eye irritation
May cause moderate eye irritation. May cause slight corneal injury. Solid or dust may cause irritation or corneal injury due to mechanical action.
Skin corrosion/irritation
Brief contact may cause moderate skin irritation with local redness.
Sensitization
Skin
Did not cause allergic skin reactions when tested in guinea pigs.
Respiratory
No relevant information found.
Repeated Dose Toxicity
For similar active ingredient(s). Aminopyralid. In animals, effects have been reported on the following organs: Gastrointestinal tract.
Chronic Toxicity and Carcinogenicity
Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies. For the active ingredient(s): Aminopyralid, Metsulfuron-methyl. Did not cause cancer in laboratory animals.
Carcinogenicity Classifications:
Component List Classification
Titanium dioxide IARC Possibly carcinogenic to humans; 2B
Developmental Toxicity
For the active ingredient(s): Aminopyralid, Metsulfuron-methyl. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.
Reproductive Toxicity
For the active ingredient(s): Aminopyralid, Metsulfuron-methyl. In animal studies, did not interfere with reproduction.
Genetic Toxicology
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the active ingredient(s): Metsulfuron-methyl. In vitro genetic toxicity studies were predominantly negative.

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). Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 h: > 120 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, Daphnia magna (Water flea), semi-static test, 48 h, immobilization: > 120 mg/l
Aquatic Plant Toxicity
ErC50, Pseudokirchneriella subcapitata (green algae), static test, Growth rate inhibition, 72 h: 17.58 mg/l
Toxicity to Above Ground Organisms
oral LD50, Colinus virginianus (Bobwhite quail): > 2,250 mg/kg

Toxicity to Soil Dwelling Organisms
 LC50, Eisenia fetida (earthworms), 14 d: 2,000 mg/kg

Persistence and Degradability

Data for Component: Aminopyralid Potassium

For similar active ingredient(s), Aminopyralid. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation	Exposure Time	Method	10 Day Window
0%	28 d	OECD 301F Test	fail

Data for Component: Metsulfuron-methyl
 Material is expected to be readily biodegradable.

Data for Component: Titanium dioxide
 Biodegradation is not applicable.

Data for Component: Kaolin
 Biodegradation is not applicable.

Bioaccumulative potential

Data for Component: Aminopyralid Potassium
 Bioaccumulation: For similar active ingredient(s), Aminopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
 Partition coefficient, n-octanol/water (log Pow): 0.72 Estimated.

Data for Component: Metsulfuron-methyl
 Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
 Partition coefficient, n-octanol/water (log Pow): 0.18

Data for Component: Titanium dioxide
 Bioaccumulation: No data available.
 Bioconcentration Factor (BCF): No data available.

Data for Component: Kaolin
 Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Mobility in soil

Data for Component: Aminopyralid Potassium
 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: Metsulfuron-methyl
 Mobility in soil: No data available.

Data for Component: Titanium dioxide
 Mobility in soil: No data available.

Data for Component: Kaolin
 Mobility in soil: No relevant data found.

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. 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.

HAZ DES	Hazard Designation
VOL/VOL	Volume/Volume

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 (M)SDSs obtained from any source other than ourselves, 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.

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: 29752

National Fire Code of Canada
 Not applicable

16. Other Information

Hazard Rating System	Health	Fire	Reactivity
NFPA	1	1	0

Recommended Uses and Restrictions
 Identified uses
 Product use: End use herbicide product

Revision
 Identification Number: 1010616 / 1023 / Issue Date 2012.04.10 / Version: 1.2
 DAS Code: GF-2050
 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
WW	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level

