

# Material Safety Data Sheet

## ACCOLADE HERBICIDE

MSDS #: 7593-A  
Revision Date: 2014-01-23  
Version 1



This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 And Canadian Workplace Hazardous Materials Information System (WHMIS) requirements.

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	ACCOLADE HERBICIDE
<b>Manufacturer</b>	<b>Emergency telephone number</b>
FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com	For leak, fire, spill or accident emergencies, call: 1 800 / 424 9300 (CHEMTREC - U.S.A.) 1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries) Medical Emergencies: 1 800 / 331-3148 (PROSAR - U.S.A. & Canada) 1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

### 2. HAZARDS IDENTIFICATION

<b>Appearance</b>	brown
<b>Physical state</b>	Granules
<b>Odor</b>	sweet
<b>Physical or Chemical Hazards</b>	Powdered material may form explosive dust-air mixtures. Toxic fumes may be released in fire situations. Slipping hazard. product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
<b>Potential health effects</b>	
<b>Acute effects</b>	
<b>Eyes</b>	May cause pain disproportionate to the level of irritation to eye tissues. Solid or dust may cause irritation or corneal injury due to mechanical action.
<b>Skin</b>	Brief contact is essentially nonirritating to skin. Prolonged contact may cause redness and irritation.
<b>Inhalation</b>	Vapors are unlikely due to physical properties. No adverse effects are anticipated from single exposure to dust. Based on available data, respiratory irritation was not observed.
<b>Ingestion</b>	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Based on physical properties, not likely to be an aspiration hazard.
<b>Chronic effects</b>	For the active ingredient(s): in animals, effects have been reported on the liver and kidney.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous ingredients

Chemical Name	CAS-No	Weight %
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Flumetsulam	98967-40-9	80
Inert Ingredients	Proprietary	11.5
Starch	9005-25-8	8.5

**4. FIRST AID MEASURES**

General advice	First aid responders should pay attention to self-protection and the the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment. Aside from the information presented below, no additional symptoms and effects are anticipated.
Eye contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further 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.
Inhalation	Move person to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	No emergency medical treatment necessary.
Notes to physician	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the safety data sheet, product container and/or product label with you when calling a poison control center or doctor or going for treatment.

**5. FIRE-FIGHTING MEASURES**

<b>Flash Point</b>	No information available.
<b>Sensitivity to Mechanical Impact</b>	Not applicable
<b>Sensitivity to Static Discharge</b>	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard
<b>Suitable extinguishing media</b>	Water. Dry chemical. Carbon dioxide (CO <sub>2</sub> ).
<b>Hazardous combustion products</b>	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, but are not limited to, hydrogen fluoride, carbon monoxide, and carbon dioxide.
<b>Specific hazards arising from the chemical</b>	Do not permit dust to accumulate. When suspended in air, dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge. Dense smoke is produced when product burns.
<b>Protective equipment and precautions for firefighters</b>	Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. 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 the (M)SDS. Wear self-contained breathing apparatus and protective suit. Wear fire/ flame resistant/ retardant clothing.

**NFPA**

<b>Health Hazard</b>	1
<b>Flammability</b>	3
<b>Stability</b>	0
<b>Special Hazards</b>	-

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** If spilled, take caution, as material can cause surfaces to become very slippery. Use personal protective equipment. For personal protection see section 8.

**Environmental precautions** Prevent material from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information for more detailed information.

**Methods for containment** Stop leak and contain spill if this can be done safely. Collect up the product. Pick up and transfer to properly labeled containers.

**Methods for cleaning up** Shovel or sweep up. Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal. Clean contaminated surface thoroughly.

**Other** For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

**7. HANDLING AND STORAGE**

**Handling** Do not ingest. Avoid breathing dust. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wash thoroughly after handling. Keep away from heat, sparks and open flame. No smoking. Dry powdered material can build static electricity when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmosphere. Handle in accordance with good industrial hygiene and safety practice. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from open flames, hot surfaces and sources of ignition.

**Storage** Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container only.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION**

**Exposure guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Starch 9005-25-8	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	
Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
Starch 9005-25-8	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

**Occupational exposure controls**

**Engineering measures** Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Use with local exhaust ventilation.

**Personal Protective Equipment**

**General Information** If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

**Respiratory protection** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there no 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, such as an organic vapor cartridge with a particulate pre-filter.

**Eye/face protection** Safety glasses with side-shields If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

<b>Skin and body protection</b>	Wear suitable protective clothing. Skin and body protection. Minimize skin contamination by following good industrial hygiene practices.
<b>Hand protection</b>	Use gloves if extended exposure is anticipated. Wear suitable gloves: Neoprene gloves, PVC gloves.
<b>Hygiene measures</b>	General industrial hygiene practice. Wash hands before breaks and immediately after handling the product. Wash skin prior to eating, drinking, chewing gum or using tobacco.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	brown
<b>Physical state</b>	Granules
<b>Odor</b>	sweet
<b>Odor Threshold</b>	No data available
<b>pH</b>	6.1 (10% solution)
<b>Melting Point/Range</b>	No data available
<b>Freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	No information available.
<b>Evaporation rate</b>	Not applicable
<b>Flammability Limits in Air</b>	Not applicable
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Specific Gravity</b>	No data available
<b>Bulk density</b>	0.48 kg/m <sup>3</sup> @ 22 °C
<b>Water solubility</b>	Miscible with water
<b>Percent volatile</b>	No information available
<b>Partition coefficient</b>	No data available
<b>Viscosity</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Autoignition Temperature</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions. Stable under normal handling and storage conditions. Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Exposure to elevated temperatures can cause product to decompose
<b>Materials to avoid</b>	None in particular
<b>Hazardous decomposition products</b>	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to carbon monoxide, carbon dioxide, hydrogen fluoride, and nitrogen oxides.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute effects

<b>Eye contact</b>	May cause pain disproportionate to the level of irritation to eye tissues. Solid or dust may cause irritation or corneal injury due to mechanical action.
<b>Skin contact</b>	Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness.
<b>LD50 Dermal</b>	> 2000 mg/kg (rabbit). No deaths occurred at this concentration.
<b>LD50 Oral</b>	> 5000 mg/kg (Rat). No deaths occurred at this concentration.

<b>LC50 Inhalation</b>	> 5.15 mg/L 4 hr (Rat) (dust). No deaths occurred at this concentration.
<b>Sensitization</b>	Did not cause sensitization on laboratory animals (guinea pig)
<b><u>Chronic effects</u></b>	
<b>Chronic Toxicity</b>	For the active ingredient(s): in animals, effects have been reported on the liver and kidney.
<b>Mutagenicity</b>	For the active ingredients: In vitro genetic toxicity studies and animal genetic studies were both negative.
<b>Reproductive toxicity</b>	In animal studies, the active ingredients did not interfere with reproduction.
<b>Developmental Toxicity</b>	Flumetsulam did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.
<b>STOT - Repeated Exposure</b>	For the active ingredient(s): in animals, effects have been reported on the liver and kidney.

Chemical Name	ACGIH	IARC	NTP	OSHA	NIOSH - Target Organs
Starch					eyes, respiratory system, skin

## 12. ECOLOGICAL INFORMATION

**Marine pollutant** Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species. Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

**Ecotoxicity**

Flumetsulam (98967-40-9)				
Active Ingredient(s)	Duration	Species	Value	Units
	72 h EC50	Algae	>0.030	mg/L
	EC50 48 hr immobilisation test	Daphnia magna Water flea	>122	mg/L
	LD50	Bee	>100	µg/bee
	LD50	Bobwhite quail	>2000	mg/kg
	96 h LC50	Oncorhynchus mykiss (rainbow trout)	>122	mg/L
	LC50	Earthworm	>1000	mg/kg

**Environmental Fate**

Flumetsulam (98967-40-9)		
Active Ingredient(s)	Type of Test	Result
Flumetsulam	log Pow	0.21
	Stability in water	Stable to hydrolysis over a wide range of pH values.
	Biodegradation	Not readily biodegradable

**Persistence and degradability** Flumetsulam: not readily biodegradable according to OECD/EEC guidelines. (Theoretical Oxygen Demand: 2.02 mg/mg.). Starch: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

**Bioaccumulation** The active ingredients of this material have a very low bioaccumulation potential. BCF for flumetsulam is <100 or log Pow <3. No bioconcentration is expected from starch because of the relatively high molecular weight (>1000).

**Mobility** Is not likely mobile in the environment. (Flumetsulam: Koc between 2000 and 5000; Starch: no relevant data found.)

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

**Contaminated packaging** Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

**14. TRANSPORT INFORMATION**

**DOT** This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

**Marine pollutant** Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species. Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

**TDG** not regulated

**ICAO/IATA**

**UN/ID No** UN3077  
**Proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Flumetsulam)  
**Hazard Class** 9  
**Packing group** PG III  
**Marine pollutant** Yes

**IMDG/IMO**

**UN/ID No** UN3077  
**Proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Flumetsulam)  
**Hazard Class** 9  
**Packing group** PG III  
**EmS No.** F-A, S-F  
**Marine pollutant** Yes

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	yes
<b>Chronic Health Hazard</b>	yes
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	no

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**International Regulations**

**Mexico - Grade** No information available

**Canada**

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

**WHMIS Hazard Class** not determined

**16. OTHER INFORMATION**

**Revision Date:** 2014-01-23  
**Reason for revision:** Initial Release.

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**End of Material Safety Data Sheet**