

Product Name: PYTHON* WDG Herbicide

Issue Date: 06/01/2012

Print Date: 01 Jun 2012

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

1. Product and Company Identification

Product Name

PYTHON* WDG Herbicide

COMPANY IDENTIFICATION

Dow AgroSciences LLC
A Subsidiary of The Dow Chemical Company
9330 Zionsville Road
Indianapolis, IN 46268-1189
United States

Customer Information Number:

800-992-5994

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact:

800-992-5994

Local Emergency Contact:

352-323-3500

2. Hazards Identification

Emergency Overview

Color: Brown

Physical State: Granules.

Odor: Sweet

Hazards of product:

CAUTION! Powdered material may form explosive dust-air mixture. Toxic fumes may be released in fire situations. Slipping hazard.

OSHA Hazard Communication Standard

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

Potential Health Effects

Eye Contact: 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.

Skin Contact: Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Inhalation: Vapors are unlikely due to physical properties. No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

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 the active ingredient(s): In animals, effects have been reported on the following organs: Kidney. Liver.

3. Composition Information

Component	CAS #	Amount
Flumetsulam	98967-40-9	80.0 %
Starch	9005-25-8	8.5 %
Balance	Not available	11.5 %

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. 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.

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

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

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 fluoride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: 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.

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. 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 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.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: 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.

7. Handling and Storage

Handling

General Handling: Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. 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

Exposure Limits

Component	List	Type	Value
Starch	ACGIH	TWA	10 mg/m ³
	OSHA Table Z-1	PEL Respirable fraction.	5 mg/m ³
	OSHA Table Z-1	PEL Total dust.	15 mg/m ³
Flumetsulam	Dow IHG	TWA	3 mg/m ³

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 safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin Protection: Wear clean, body-covering clothing.

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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

Appearance

Physical State	Granules.
Color	Brown
Odor	Sweet
Odor Threshold	No test data available
pH	6.1 (@ 10 %) <i>pH Electrode</i>
Melting Point	No test data available
Freezing Point	Not applicable
Boiling Point (760 mmHg)	Not applicable.
Flash Point - Closed Cup	No test data available
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammable Limits In Air	Lower: Not applicable Upper: Not applicable
Vapor Pressure	Not applicable
Vapor Density (air = 1)	Not applicable
Specific Gravity (H₂O = 1)	No test data available
Solubility in water (by weight)	Disperses in water
Partition coefficient, n-octanol/water (log Pow)	No data available for this product. See Section 12 for individual component data.
Autoignition Temperature	Not applicable
Decomposition Temperature	No test data available
Bulk Density	0.48 kg/m ³ @ 22 °C <i>Loose Volumetric</i>

10. Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Thermally stable at recommended temperatures and pressures.

Possibility of hazardous reactions

Polymerization will not occur.

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

Incompatible Materials: None known.

Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide.

Hydrogen fluoride. Nitrogen oxides.

11. Toxicological Information

Acute Toxicity

Ingestion

As product: LD50, rat > 5,000 mg/kg

No deaths occurred at this concentration.

Dermal

As product: LD50, rabbit > 2,000 mg/kg

No deaths occurred at this concentration.

Inhalation

As product: LC50, 4 h, Respirable dust., rat > 5.15 mg/l

No deaths occurred at this concentration.

Eye damage/eye irritation

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.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness.

Sensitization

Skin

Did not cause allergic skin reactions when tested in guinea pigs.

Repeated Dose Toxicity

For the active ingredient(s): In animals, effects have been reported on the following organs: Kidney. Liver.

Chronic Toxicity and Carcinogenicity

Active ingredient did not cause cancer in laboratory animals.

Developmental Toxicity

For the active ingredient(s): 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): In animal studies, did not interfere with reproduction.

Genetic Toxicology

For the active ingredient(s): In vitro genetic toxicity studies were negative. For the active ingredient(s): Animal genetic toxicity studies were negative.

12. Ecological Information

Toxicity

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).

Fish Acute & Prolonged Toxicity

As product: LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 h: > 122 mg/l

Aquatic Invertebrate Acute Toxicity

As product: EC50, Daphnia magna (Water flea), 48 h, immobilization: > 122 mg/l

Aquatic Plant Toxicity

As product: ErC50, Pseudokirchneriella subcapitata (green algae), 72 h: > 0.030 mg/l

Toxicity to Above Ground Organisms

As product: oral LD50, Colinus virginianus (Bobwhite quail): > 2000 mg/kg bodyweight.

As product: oral LD50, Apis mellifera (bees): > 100 micrograms/bee

As product: contact LD50, Apis mellifera (bees): > 100 micrograms/bee

Toxicity to Soil Dwelling Organisms

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

Persistence and Degradability

Data for Component: **Flumetsulam**

Material is not readily biodegradable according to OECD/EEC guidelines.

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
			9 - 19 %

Theoretical Oxygen Demand: 2.02 mg/mg

Data for Component: **Starch**

Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Bioaccumulative potential

Data for Component: **Flumetsulam**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): 1.50 Estimated.

Data for Component: **Starch**

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Mobility in soil

Data for Component: **Flumetsulam**

Mobility in soil: Potential for mobility in soil is slight (Koc between 2000 and 5000).

Partition coefficient, soil organic carbon/water (Koc): 3,100 Estimated.

Henry's Law Constant (H): 4.77E-15 atm*m³/mole; 25 °C Estimated.

Data for Component: **Starch**

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.

14. Transport Information

DOT Non-Bulk
NOT REGULATED

DOT Bulk
NOT REGULATED

IMDG

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S.

Technical Name: FLUMETSULAM

Hazard Class: 9 **ID Number:** UN3077 **Packing Group:** PG III

EMS Number: F-A,S-F

Marine pollutant.: Yes

ICAO/IATA

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Technical Name: FLUMETSULAM

Hazard Class: 9 **ID Number:** UN3077 **Packing Group:** PG III

Cargo Packing Instruction: 956

Passenger Packing Instruction: 956

Additional Information

MARINE POLLUTANT

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard

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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Starch	9005-25-8	8.5%

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

CEPA - Domestic Substances List (DSL)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

16. Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	1	3	0

Revision

Identification Number: 55345 / 1016 / Issue Date 06/01/2012 / Version: 3.0

DAS Code: BF-308

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

Legend

N/A	Not available
W/W	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
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

Dow AgroSciences LLC 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.