

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DuPont™ Afforia™ Herbicide
Tradename/Synonym : DPX-UTM01 50.8WG Blend
Flumioxazin: 2-[7-fluor-3,4-dihydro-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione
Thifensulfuron methyl: Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate
TRIBENURON METHYL: Methyl 2-[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate

Product Use : Herbicide

Restrictions on use : Do not use product for anything outside of the above specified uses

Manufacturer/Supplier : DuPont
974 Centre Road
Wilmington, DE 19805, USA

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION**Product hazard category**

Acute toxicity (Inhalation)	Category 4
Skin sensitisation	Sub-category 1B
Reproductive toxicity	Category 2

DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Label content

Pictogram :



Signal word :

Warning

Hazardous warnings :

May cause an allergic skin reaction.
Harmful if inhaled.
Suspected of damaging fertility or the unborn child.

Hazardous prevention measures :

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
Use personal protective equipment as required.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Information presented in Section 2 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 87.575 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Flumioxazin	103361-09-7	40.8 %
Tribenuron methyl	101200-48-0	5 %
Thifensulfuron methyl	79277-27-3	5 %
Sodium carbonate	497-19-8	1 - 5 %
Trisodium phosphate dodecahydrate	10101-89-0	1 - 5 %
Other Ingredients		39.2 - 47.2 %

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

General advice	: Information presented in Section 4 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use. 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 poison control center or doctor for treatment advice.
Skin contact	: Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
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 poison control center or doctor for treatment advice.
Ingestion	: No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
Most important symptoms/effects, acute and delayed	: No applicable data available.
Protection of first-aiders	: No applicable data available.
Notes to physician	: No applicable data available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
Unsuitable extinguishing media	: High volume water jet, (contamination risk)
Specific hazards	: No applicable data available.

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Wear suitable protective equipment.

Environmental precautions : Prevent material from entering sewers, waterways, or low areas.

Spill Cleanup : Sweep up and shovel into suitable containers for disposal.

Accidental Release Measures : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Handling (Physical Aspects) : Keep away from heat and sources of ignition.

Dust explosion class : No applicable data available.

Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Store in a cool, dry place. Keep out of the reach of children.

Storage period : No applicable data available.

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Information presented in Section 8 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

Personal protective equipment

Skin and body protection

: Mixers, loaders, applicators and other handlers must wear:
Long sleeved shirt and long pants
Chemical resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.
Shoes plus socks
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
Coveralls
Chemical resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.
Shoes plus socks

Protective measures

: Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Use this product in accordance with its label.

Exposure Guidelines

Exposure Limit Values


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Flumioxazin
No applicable data available.

Tribenuron methyl			
AEL *	(DUPONT)	0.5 mg/m3	12 hr. TWA
AEL *	(DUPONT)	1 mg/m3	8 hr. TWA

Thifensulfuron methyl			
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA Total dust.

Sodium carbonate			
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA Total dust.

Trisodium phosphate dodecahydrate
No applicable data available.

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state : solid
Form : granules
Color : light brown, off-white

Odor : Faint odour

Odor threshold : No applicable data available.

pH : 7.5 - 8.5

Melting point/range : No applicable data available.

Boiling point/boiling range : No applicable data available.

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Flash point	: No applicable data available.
Evaporation rate	: No applicable data available.
Flammability (solid, gas)	: No applicable data available.
Upper explosion limit	: No applicable data available.
Lower explosion limit	: No applicable data available.
Vapour Pressure	: No applicable data available.
Vapour density	: No applicable data available.
Specific gravity (Relative density)	: No applicable data available.
Bulk density	: 0.47 - 0.67 mg/l
Water solubility	: soluble
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.
Oxidizing Substance	: The product is not oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No applicable data available.
Chemical stability	: Stable at normal temperatures and storage conditions.
Possibility of hazardous	: Polymerization will not occur.


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

reactions
 Conditions to avoid : None reasonably foreseeable.

Incompatible materials : No materials to be especially mentioned.

Hazardous decomposition products : No applicable data available.

SECTION 11. TOXICOLOGICAL INFORMATION

DuPont™ Afforia™ Herbicide

Inhalation 4 h Acute toxicity estimate : > 1.3 mg/l , Rat

Dermal Acute toxicity estimate : > 2,273 mg/kg , Rabbit

Oral Acute toxicity estimate : > 5,000 mg/kg , Rat

Skin irritation : No skin irritation, Rabbit
 Minimal effects that do not meet the threshold for classification.

Eye irritation : No eye irritation, Rat
 Minimal effects that do not meet the threshold for classification.

Sensitisation : The product is a skin sensitiser, sub-category 1B., Guinea pig

Further information : Information given is based on data on the components.
 Further information : Information presented in this Section conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies.

Flumioxazin

Repeated dose toxicity : Ingestion
 Rat
 -
 No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., altered hematology, Organ weight changes

Ingestion
 Dog
 -


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., altered hematology, Organ weight changes

- Carcinogenicity** : Animal testing did not show any carcinogenic effects.
- Mutagenicity** : Animal testing did not show any mutagenic effects.
Did not cause genetic damage in cultured bacterial cells.
Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
- Reproductive toxicity** : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
- Teratogenicity** : Animal testing showed effects on embryo-foetal development at levels below those causing maternal toxicity.

Tribenuron methyl

- Repeated dose toxicity** : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed
 Mouse
 - 90 d
 NOAEL: 500 mg/kg
 Reduced body weight gain

Oral
 Rat
 - 28 d
 Reduced body weight gain

- Carcinogenicity** : Not classifiable as a human carcinogen.
An increased incidence of tumours was observed in laboratory animals.
Target(s):
Mammary glands
- Mutagenicity** : Animal testing did not show any mutagenic effects.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- Reproductive toxicity** : No toxicity to reproduction

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Thifensulfuron methyl

Repeated dose toxicity

: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed
multiple species

-
Reduced body weight gain

Carcinogenicity

: Animal testing did not show any carcinogenic effects.

Mutagenicity

: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Animal testing did not show any mutagenic effects.

Reproductive toxicity

: No toxicity to reproduction
Animal testing showed no reproductive toxicity.

Teratogenicity

: Did not show teratogenic effects in animal experiments.
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Sodium carbonate

Repeated dose toxicity

: Inhalation
Rat

-
Respiratory tract irritation

Mutagenicity

: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Evidence suggests this substance does not cause genetic damage in animals.

Reproductive toxicity

: Animal testing showed no reproductive toxicity.

Teratogenicity

: Animal testing showed no developmental toxicity.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION
Aquatic Toxicity
Flumioxazin

96 h LC50	:	Cyprinus carpio (Carp) > 1.3 mg/l
72 h EC50	:	Desmodesmus subspicatus (green algae) 0.0006 mg/l
72 h NOEC	:	Desmodesmus subspicatus (green algae) 0.00023 mg/l
48 h EC50	:	Daphnia magna (Water flea) 17 mg/l

Tribenuron methyl

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 738 mg/l
120 h EC50	:	Pseudokirchneriella subcapitata (microalgae) 0.11 mg/l
14 d EC50	:	Lemna gibba (duckweed) 0.00425 mg/l
48 h EC50	:	Daphnia magna (Water flea) > 894 mg/l

Thifensulfuron methyl

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) > 100 mg/l
14 d EC50	:	Lemna minor (duckweed) 0.0013 mg/l
48 h EC50	:	Daphnia magna (Water flea) 470 mg/l
28 d	:	NOEC Americamysis bahia (mysid shrimp) 7.93 mg/l

Sodium carbonate

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 300 mg/l
48 h LC50	:	Ceriodaphnia dubia (water flea) 200 - 227 mg/l
4 d	:	EC50 Daphnia magna (Water flea) 228 - 297 mg/l


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Trisodium phosphate dodecahydrate
 96 h EC50 : Gambusia affinis (Mosquito fish) 151 mg/l
 96 h EC50 : Daphnia magna (Water flea) 126 mg/l

Environmental Fate
Sodium carbonate

Biodegradability : The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulation : Does not bioaccumulate.

Additional ecological information : Environmental Hazards: This product is toxic to non-target plants. Toxic to aquatic organisms. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply where/when conditions favour runoff. Run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. See product label for additional application instructions relating to environmental precautions.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Waste disposal methods - Container : Container Refilling and Disposal: Refer to the product label for instructions. Do not transport if this container is damaged or leaking.

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION


DuPont™ Afforia™ Herbicide

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Flumioxazin, Tribenuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Flumioxazin, Tribenuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Flumioxazin, Tribenuron methyl)

Not regulated as a hazardous material by DOT.

SECTION 15. REGULATORY INFORMATION

Other regulations : This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and various state regulatory agencies, and is therefore also subject to certain requirements under US and state pesticide laws, including the Federal Insecticide Fungicide and Rodenticide Act (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is information determined by USEPA, and various states.

CAUTION!

Harmful if absorbed through the skin or inhaled. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes and clothing. Avoid breathing dust or spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before re-use. This product is toxic to: Aquatic invertebrates

SARA 313 Regulated : Tribenuron methyl

**DuPont™ Afforia™ Herbicide**

Version 2.1

Revision Date 12/08/2015

Ref. 130000130061

Chemical(s)

PA Right to Know
Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances):
Kaolin, Trisodium phosphate dodecahydrate

EPA Reg. No. : 352-889
In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

SECTION 16. OTHER INFORMATION

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® Registered trademark of E.I. du Pont de Nemours and Company

Revision Date : 12/08/2015

Contact person : DuPont Crop Protection, Wilmington, DE, 19805, Phone: 1-888-638-7668

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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