

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

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™ Steadfast® Q Herbicide  
Tradename/Synonym : DPX-QVP08 37.7 WG Blend  
NICOSULFURON (2-[[[4,6-dimethoxypyrimidin-2-yl)aminocarbonyl]aminosulfonyl]-N,N-dimethyl-3-pyridinecarboxamide)  
RIMSULFURON (N((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide)

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 : +1-800-424-9300 (outside the U.S. +1-703-527-3887)

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

Serious eye damage/eye irritation Category 2B

**Label content**

Pictogram : not required

Signal word : Warning

Hazardous warnings : Causes eye irritation.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

Hazardous prevention measures : Wash skin thoroughly after handling.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/ attention.

**Other hazards**

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.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Rimsulfuron	122931-48-0	12.5 %
Nicosulfuron	111991-09-4	25.2 %
Lignin Sulfonate Salt		1 - 5 %
Disodium phosphate		1 - 5 %
Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate		8.3 %
Other Ingredients		43.4 - 51.4 %

Present as an impurity in the clay component of this product:

Titanium dioxide	13463-67-7	0.1 - 0.5 %
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The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4. FIRST AID MEASURES**

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019 Ref. 130000044078  
Revision Date : 02/08/2019

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
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.
- 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 : No applicable data available.
- Specific hazards : Not a fire or explosion hazard. The material poses no explosion hazard in granular form.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Further information : Evacuate personnel and keep upwind of fire. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Burning chemicals may produce by-products more toxic than the original material. Use water spray. Runoff from fire control may be a pollution hazard. Do not allow run-off from fire fighting to enter drains or water courses. Cool containers/tanks with water spray. Control Runoff.

**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.

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.


**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019 Ref. 130000044078  
 Revision Date : 02/08/2019

Storage period : No applicable data available.

Storage temperature : No applicable data available.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering controls : Ensure adequate ventilation. 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.

**Personal protective equipment**

Skin and body protection : Applicators and other handlers must wear:  
 Long sleeved shirt and long pants  
 Chemical-resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils  
 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, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils  
 Shoes plus socks

Protective measures : 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.

**Exposure Guidelines  
 Exposure Limit Values**

<b>Rimsulfuron</b>			
AEL *	(DuPont)	5 mg/m3	8 & 12 hr. TWA
AEL *	(DuPont)	2.5 mg/m3	8 & 12 hr. TWA

<b>Titanium dioxide</b>			
PEL (Permissible Exposure Limit)	(OSHA)	15 mg/m3	8 hr. TWA
PEL (Permissible Exposure Limit)	(OSHA)	10 mg/m3	TWA

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

TLV	(ACGIH)	10 mg/m3	TWA
AEL *	(DuPont)	10 mg/m3	8 & 12 hr. TWA
AEL *	(DuPont)	5 mg/m3	8 & 12 hr. TWA

**Lignin Sulfonate Salt**

No applicable data available.

**Nicosulfuron**

AEL *	(DuPont)	5 mg/m3	8 & 12 hr. TWA
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**Disodium phosphate**

No applicable data available.

**Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate**

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 : solid, granules  
Color : light brown, tan

Odor : slight

Odor threshold : No applicable data available.

pH : 5.3 - 6.3

Melting point/range : No applicable data available.

Boiling point/boiling range : No applicable data available.

Flash point : No applicable data available.

Evaporation rate : No applicable data available.

Flammability (solid, gas) : No applicable data available.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019 Ref. 130000044078  
Revision Date : 02/08/2019

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.  
Density : 0.57 - 0.67 g/cm<sup>3</sup>  
Specific gravity (Relative density) : No applicable data available.  
Water solubility : No applicable data available.  
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.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No applicable data available.  
Chemical stability : Stable at normal temperatures and storage conditions.  
Possibility of hazardous reactions : Polymerization will not occur.  
Conditions to avoid : None reasonably foreseeable.  
Incompatible materials : No materials to be especially mentioned.  
Hazardous decomposition products : No applicable data available.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

**SECTION 11. TOXICOLOGICAL INFORMATION****DuPont™ Steadfast® Q Herbicide**

- Inhalation 4 h Acute toxicity estimate : > 6.3 mg/l , Rat
- Dermal Acute toxicity estimate : > 5,000 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 : Mild eye irritation, Rabbit
- Sensitisation : Did not cause sensitisation on laboratory animals., Guinea pig  
Did not cause sensitisation on laboratory animals., Mouse
- Further information : Information given is based on data on the components and the toxicology of similar products.
- 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.
- Rimsulfuron**
- Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
- Oral multiple species - altered blood chemistry, Liver effects, Organ weight changes
- Carcinogenicity : Did not show carcinogenic effects in animal experiments.
- Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.  
Did not show mutagenic effects in animal experiments.



**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

Reproductive toxicity : Animal testing did not show any effects on fertility.

Teratogenicity : Evidence suggests the substance is not a developmental toxin in animals.

**Nicosulfuron**

Repeated dose toxicity : Ingestion  
multiple species  
- 90 d  
No toxicologically significant effects were found.

Carcinogenicity : Not classifiable as a human carcinogen.  
Animal testing did not show any carcinogenic effects.

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  
Animal testing showed no reproductive toxicity.  
No effects on or via lactation

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

**Lignin Sulfonate Salt**

Repeated dose toxicity : Ingestion  
Rat  
- 16 Weeks  
NOAEL: 2,830 mg/kg  
No toxicologically significant effects were found., Information given is based on data obtained from similar substances.

Mutagenicity : Animal testing did not show any mutagenic effects.  
Did not cause genetic damage in cultured bacterial cells.  
Information given is based on data obtained from similar substances.

**Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate**

Repeated dose toxicity : Ingestion  
Mouse  
- 90 d Method: OPPTS 870.3100  
No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

- Carcinogenicity : Not classifiable as a human carcinogen.  
Animal testing did not show any carcinogenic effects.
- 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  
Animal testing showed no reproductive toxicity.
- Teratogenicity : Evidence suggests the substance is not a developmental toxin in animals.

## Titanium dioxide

- Repeated dose toxicity : Oral  
Rat  
-  
NOAEL: 1,000 mg/kg Method: OECD Test Guideline 408  
No toxicologically significant effects were found.
- Carcinogenicity : Not classifiable as a human carcinogen.  
Overall weight of evidence indicates that the substance is not carcinogenic.
- Mutagenicity : Animal testing did not show any mutagenic effects.  
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- 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 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).

Material	IARC	NTP	OSHA
Titanium dioxide	2B		

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

**SECTION 12. ECOLOGICAL INFORMATION****Aquatic Toxicity****Rimsulfuron**

96 h LC50	: Oncorhynchus mykiss (rainbow trout) > 390 mg/l
96 h LC50	: Lepomis macrochirus (Bluegill sunfish) > 390 mg/l
120 h EbC50	: Selenastrum capricornutum (green algae) 1.6 mg/l
48 h EC50	: Daphnia magna (Water flea) > 360 mg/l
90 d	: NOEC Oncorhynchus mykiss (rainbow trout) 110 mg/l
21 d	: NOEC Daphnia magna (Water flea) 0.82 mg/l

**Nicosulfuron**

96 h LC50	: Cyprinodon variegatus (sheepshead minnow) > 124 mg/l
7 d EC50	: Lemna gibba (duckweed) 0.0032 mg/l US EPA Test Guideline OPP 122-2 & 123-2
14 d NOEC	: Lemna gibba (duckweed) 0.0025 mg/l
48 h EC50	: Daphnia magna (Water flea) > 1,000 mg/l US EPA Test Guideline OPP 72-2
90 d	: NOEC Oncorhynchus mykiss (rainbow trout) 24 mg/l OECD Test Guideline 210
21 d	: NOEC Daphnia magna (Water flea) 43 mg/l OECD Test Guideline 202

**Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate**

96 h LC50	: Lepomis macrochirus (Bluegill sunfish) 0.22 mg/l
96 h EC50	: Pseudokirchneriella subcapitata (green algae) > 1.26 mg/l
96 h NOEC	: Pseudokirchneriella subcapitata (green algae) 1.26 mg/l

**Titanium dioxide**

96 h LC50	: Pimephales promelas (fathead minnow) > 1,000 mg/l
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**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

72 h ErC50 : Pseudokirchneriella subcapitata (green algae) > 100 mg/l see user defined free text

72 h NOEC : Algae 5,600 mg/l see user defined free text

48 h EC50 : Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202

## Environmental Fate

## Rimsulfuron

Biodegradability : According to the results of tests of biodegradability this product is not readily biodegradable.

Bioaccumulation : Does not bioaccumulate.

## Nicosulfuron

Bioaccumulation : Bioaccumulation is unlikely.

Additional ecological information : Environmental Hazards: 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 contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not apply where/when conditions favour runoff. Do not apply if a severe storm is expected within 24 hours.

**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.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

**SECTION 14. TRANSPORT INFORMATION**

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

Not regulated as a hazardous material by DOT.

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

**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 skin. Causes moderate eye irritation. Avoid contact with skin, eyes and clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

Ref. 130000044078

SARA 311/312 Hazard classification : Serious eye damage or eye irritation

SARA 313 Regulated Chemical(s) : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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, Disodium phosphate, Sucrose, Sodium sulphate

CERCLA Reportable Quantity : Based on the percentage composition of this chemical in the product.:

	Disodium phosphate
	Naphthalene

SARA Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

EPA Reg. No. : 352-774  
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.

California Prop. 65 :

**SECTION 16. OTHER INFORMATION**

™ Trademark of E.I. du Pont de Nemours and Company.

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

Issue Date : 03/18/2019  
Revision Date : 02/08/2019

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



**DuPont™ Steadfast® Q Herbicide**

Version 3.0

Issue Date : 03/18/2019

Ref. 130000044078

Revision Date : 02/08/2019

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.