



DuPont™ Steadfast® Herbicide

Version 2.0

Revision Date 06/17/2015

Ref. 130000026946

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® Herbicide
 Tradename/Synonym : DPX-L1D57 75WG (2:1)
 DPX-747
 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

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

Manufacturer/Supplier : DuPont
 4417 Lancaster Pike
 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

Not classified as a hazardous substance or mixture according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 2012.

Other hazards

No applicable data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration

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Rimsulfuron	122931-48-0	25 %
Nicosulfuron	111991-09-4	50 %
Modified Aromatic Sulfonate Salt		6.16 %
Other Ingredients		18.84 %

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

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
- Inhalation : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- 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.

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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, Dry chemical, Foam, Carbon dioxide (CO2)
Unsuitable extinguishing media	: High volume water jet, (contamination risk)
Specific hazards	: No applicable data available.
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. Do not allow run-off from fire fighting to enter drains or water courses.

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. Avoid dust formation. Wear suitable protective equipment.
Environmental precautions	: Prevent material from entering sewers, waterways, or low areas.

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- Spill Cleanup : Sweep up and shovel into suitable containers for disposal. Avoid generating dust.
- 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 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. 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. Avoid dust formation.
- Dust explosion class : No applicable data available.
- Storage : Store in original container. Store in a cool, dry place. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep out of the reach of children.
- Storage period : No applicable data available.
- Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Ensure adequate ventilation.
- 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


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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**

Rimsulfuron			
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA Total dust.
AEL *	(DUPONT)	2.5 mg/m3	8 & 12 hr. TWA Respirable dust.

Nicosulfuron			
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA Respirable dust.

Modified Aromatic Sulfonate Salt
No applicable data available.

Titanium dioxide			
Permissible exposure limit:	(OSHA)	15 mg/m3	8 hr. TWA Total dust.
TLV	(ACGIH)	10 mg/m3	TWA
AEL *	(DUPONT)	10 mg/m3	8 & 12 hr. TWA Total dust.
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA Respirable dust.

* 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 : off-white

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Odor	: slight
Odor threshold	: No applicable data available.
pH	: 6
Melting point/freezing point	: Melting point/range 141 - 144 °C (286 - 291 °F)
Boiling point/boiling range	: No applicable data available.
Flash point	: No applicable data available.
Evaporation rate	: No applicable data available.
Flammability (solid, gas)	: The product is not flammable.
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)	: 0.63
Bulk density	: 560 - 640 kg/m ³
Water solubility	: dispersible
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.


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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 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.

SECTION 11. TOXICOLOGICAL INFORMATION

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Dermal LD50 : > 5,000 mg/kg , Rat

Oral LD50 : > 5,000 mg/kg , Rat

Skin irritation : No skin irritation, Rabbit

Eye irritation : No eye irritation, Rabbit

Sensitisation : Animal test did not cause sensitization by skin contact., Local lymph node test Mouse

Rimsulfuron

Inhalation 4 h LC50 : > 5.4 mg/l , Rat

Repeated dose toxicity :

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

Oral

Rat

-

altered blood chemistry, Liver effects, Organ weight changes

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- 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.
- Reproductive toxicity : Animal testing did not show any effects on fertility.
- Teratogenicity : Evidence suggests the substance is not a developmental toxin in animals.

Nicosulfuron

- Inhalation 4 h LC50 : > 5.9 mg/l , Rat
- Repeated dose toxicity : Oral
Mouse
- 90 d
NOAEL: 300 mg/kg
No toxicologically significant effects were found.
- Oral
Mouse
- 28 d
No toxicologically significant effects were found.
- Oral
Rat
- 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.
- Teratogenicity : Did not show teratogenic effects in animal experiments.

Titanium dioxide


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Inhalation 4 h LC50	:	> 6.82 mg/l , Rat
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		

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


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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 : Oncorhynchus mykiss (rainbow trout) > 1,000 mg/l
 96 h LC50 : Lepomis macrochirus (Bluegill sunfish) > 1,000 mg/l
 72 h EbC50 : Pseudokirchneriella subcapitata (green algae) 24.75 mg/l
 72 h ErC50 : Pseudokirchneriella subcapitata (green algae) 71.17 mg/l
 7 d EC50 : Lemna gibba (duckweed) 0.0032 mg/l
 96 h EC50 : Lemna gibba (duckweed) > 0.120 mg/l
 48 h EC50 : Daphnia magna (Water flea) > 1,000 mg/l
 90 d : NOEC Oncorhynchus mykiss (rainbow trout) 24 mg/l
 21 d : NOEC Daphnia magna (Water flea) 43 mg/l

Titanium dioxide

96 h LC50 : Pimephales promelas (fathead minnow) > 1,000 mg/l
 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.

Additional ecological information : Environmental Hazards: Do not apply directly to water, or to areas


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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.

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.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nicosulfuron, Rimsulfuron)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9

Not regulated as a hazardous material by DOT.



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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 is therefore also subject to certain labeling requirements under US pesticide law (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 the mandatory hazard information required by USEPA on the pesticide label:
- CAUTION!**
- Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes and clothing.
- 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, Sucrose
- Title III hazard classification : Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire: No
Reactivity/Physical hazard: No
Pressure: No
- EPA Reg. No. : 352-608
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.

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SECTION 16. OTHER INFORMATION

NFPA

Health	:	1
Flammability	:	0
Reactivity/Physical hazard	:	0

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Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

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