



DuPont™ Resolve® Q Herbicide

Version 3.0

Issue Date : 03/18/2019 Ref. 130000043418
 Revision Date : 02/07/2019

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™ Resolve® Q Herbicide
 Tradename/Synonym : DPX-QFU30 WG
 Rimsulfuron: N-((4,6-dimethoxypyrimidin-2-yl)aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide
 Thifensulfuron-methyl: Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate

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

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

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	18.4 %


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Thifensulfuron methyl	79277-27-3	4 %
Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate		9.2 %
Disodium phosphate		5 - 10 %
Lignin Sulfonate Salt		1 - 5 %
Sodium carbonate	497-19-8	1 - 5 %
Other Ingredients		<=61.4 %

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** : 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.

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Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.

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.

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

Further information : Control Runoff. Evacuate personnel and keep upwind of fire. (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, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.

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

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



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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.
- Storage period : No applicable data available.
- 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. 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 : Use this product in accordance with its label. 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.

**Exposure Guidelines
 Exposure Limit Values**

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

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

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

Lignin Sulfonate Salt			
No applicable data available.			

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, granular
 Color : light tan

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Odor : slight

Odor threshold : No applicable data available.

pH : 6.2 - 7.2

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.

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.

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


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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.

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

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

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.

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

Repeated dose toxicity

: Ingestion

Mouse

- 90 dMethod: OPPTS 870.3100

No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for


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classification.

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.

Disodium phosphate

Repeated dose toxicity : Ingestion
 Dog
 - 90 d
 NOAEL: 322.88 mg/kg
 No toxicologically significant effects were found., Information given is based on data obtained from similar substances.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Evidence suggests this substance does not cause genetic damage in animals.
 Information given is based on data obtained from similar substances.

Reproductive toxicity : No toxicity to reproduction
 Animal testing showed no reproductive toxicity.
 Information given is based on data obtained from similar substances.

Teratogenicity : Animal testing showed no developmental toxicity.
 Information given is based on data obtained from similar substances.

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.


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Did not cause genetic damage in cultured bacterial cells.
 Information given is based on data obtained from similar substances.

Sodium carbonate

- Repeated dose toxicity : Inhalation
 human
 -
 No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.
- Carcinogenicity : Weight of evidence does not support classification as a carcinogen
- Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Weight of evidence does not support classification as a germ cell mutagen.
 Information given is based on data obtained from similar substances.
- Reproductive toxicity : Weight of evidence does not support classification for 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


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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

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

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

Disodium phosphate

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 100 mg/l OECD Test
 Guideline 203
 Information given is based on data obtained from similar substances.
 72 h ErC50 : Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test
 Guideline 201
 Information given is based on data obtained from similar substances.
 72 h NOEC : Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test
 Guideline 201
 Information given is based on data obtained from similar substances.
 48 h EC50 : Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202
 Information given is based on data obtained from similar substances.

Sodium carbonate

96 h LC50 : Lepomis macrochirus (Bluegill sunfish) 300 mg/l
 48 h LC50 : Ceriodaphnia dubia (water flea) 200 mg/l


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Environmental Fate
Rimsulfuron

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

Bioaccumulation : Does not bioaccumulate.

Sodium carbonate

Bioaccumulation : Does not bioaccumulate.

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. 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

IATA_C UN number : 3077
 Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
 (Isoxadifen-ethyl)
 Class : 9
 Packing group : III


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IMDG	Labelling No.	: 9
	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Isoxadifen-ethyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Isoxadifen-ethyl)

Not regulated by DOT/49 CFR unless shipped in bulk package or by water.
 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!

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

SARA 311/312 Hazard classification : No SARA Hazards

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):



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Kaolin, Disodium phosphate, Sucrose, Sodium sulphate

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

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

EPA Reg. No. : 352-777
 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 : This product can expose you to substances including Titanium dioxide, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16. OTHER INFORMATION

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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.