

**DuPont™ GR1™ Herbicide**

Version 2.1

Revision Date 03/24/2016

Ref. 130000129654

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™ GR1™ Herbicide  
Tradename/Synonym : GR1  
Pyroxsulam: N-(5,7-dimethoxy[1,2,4]triazolo[1,5-a]pyrimidin-2-yl)-2-methoxy-4-(trifluoromethyl)-3-pyridinesulfonamide  
Cloquintocet-mexyl

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**

Skin sensitisation

Category 1

Carcinogenicity

Category 1A

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**Label content**

Pictogram

:



Signal word

: Danger

Hazardous warnings

: May cause an allergic skin reaction.  
May cause cancer.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.  
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 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**

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.

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

Component	CAS-No.	Concentration
Pyroxsulam	422556-08-9	13.13 %
Cloquintocet-mexyl	99607-70-2	13.13 %
Kaolin	1332-58-7	23.4 %
Titanium dioxide	13463-67-7	0.5 - 1 %
Quartz	14808-60-7	0.1 - 0.5 %
Other Ingredients		48.84 - 49.74 %

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

**SECTION 4. FIRST AID MEASURES**



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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	: 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)

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- Specific hazards : To reduce the potential for dust explosions, do not permit dust to accumulate. Hazard combustion products may include and are not limited to carbon monoxide and carbon dioxide.
- 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, 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.
- 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) : Pneumatic conveying and other mechanical handling operations can generate combustible dust. Do not swallow. Do not breathe dust or spray mist. Avoid contact with skin, eyes and clothing. Avoid prolonged or repeated contact with skin. Wash hands before breaks and immediately after handling the product. Keep container closed. Remove and wash contaminated clothing before re-use. Use with adequate ventilation.  
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.

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- 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. 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. Ensure adequate ventilation.
- Personal protective equipment
- Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge. Provide adequate ventilation.
- Skin and body protection : Applicators and other handlers must wear:  
Long sleeved shirt and long pants  
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  
Shoes plus socks
- Protective measures : Use this product in accordance with its label. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE



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separately from other laundry.

Exposure Guidelines  
Exposure Limit Values

Quartz

Permissible exposure limit:	(OSHA)	2.4 millions of particles per cubic foot of air	TWA
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Respirable.  
Remarks

The exposure limit is calculated from the equation,  $250/(\%SiO_2+5)$ , using a value of 100% SiO<sub>2</sub>. Lower percentages of SiO<sub>2</sub> will yield higher exposure limits.

Permissible exposure limit:	(OSHA)	0.1 mg/m <sup>3</sup>	TWA Respirable.
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Remarks

The exposure limit is calculated from the equation,  $10/(\%SiO_2+2)$ , using a value of 100% SiO<sub>2</sub>. Lower percentages of SiO<sub>2</sub> will yield higher exposure limits.

Permissible exposure limit:	(OSHA)	0.3 mg/m <sup>3</sup>	TWA Total dust.
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Remarks

The exposure limit is calculated from the equation,  $30/(\%SiO_2+2)$ , using a value of 100% SiO<sub>2</sub>. Lower values of % SiO<sub>2</sub> will give higher exposure limits.

TLV	(ACGIH)	0.025 mg/m <sup>3</sup>	TWA Respirable fraction.
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AEL *	(DuPont)	0.01 mg/m <sup>3</sup>	12 hr. TWA Respirable dust.
AEL *	(DuPont)	0.02 mg/m <sup>3</sup>	8 hr. TWA Respirable dust.

Cloquintocet-mexyl

No applicable data available.

Pyroxsulam

No applicable data available.

Titanium dioxide


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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.

## Kaolin

Permissible exposure limit:	(OSHA)	5 mg/m3	8 hr. TWA Respirable fraction.
Permissible exposure limit:	(OSHA)	15 mg/m3	8 hr. TWA Total dust.
TLV	(ACGIH)	2 mg/m3	TWA Respirable fraction.

## Remarks

The value is for particulate matter containing no asbestos and <1% crystalline silica.

\* 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  
 Color : tan

Odor : sweet

Odor threshold : No applicable data available.

pH : 5.17

Melting point/range : No applicable data available.

Boiling point/boiling range : No applicable data available.

Flash point : Method: closed cup



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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.
Density	: 0.43 g/cm <sup>3</sup> at 23.2 °C (73.8 °F)
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	: Elevated temperature
Incompatible materials	: No materials to be especially mentioned.

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Hazardous decomposition products : No applicable data available.

**SECTION 11. TOXICOLOGICAL INFORMATION**

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Dermal LD50 : > 5,000 mg/kg , male and female, Rabbit

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

Skin irritation : No skin irritation, Rabbit

Eye irritation : No eye irritation, Rabbit

Sensitisation : May cause sensitisation by skin contact., mice

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.

Pyroxsulam

Inhalation 4 h LC50 : > 5.12 mg/l , Rat

Repeated dose toxicity : Ingestion  
multiple species  
- 90 d  
No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Liver effects

Carcinogenicity : Not classifiable as a human carcinogen.  
Overall weight of evidence indicates that the substance is not carcinogenic.

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


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Teratogenicity	:	Animal testing showed no developmental toxicity.
Cloquintocet-mexyl		
Inhalation 4 h	:	> 5.42 mg/l , Rat
Repeated dose toxicity	:	Oral animals (unspecified species) - No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Liver effects, Kidney effects, Thymus effects, urinary bladder effects, bone marrow changes, Thyroid effects
Carcinogenicity	:	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.
Teratogenicity	:	Animal testing showed no developmental toxicity.
Kaolin		
Carcinogenicity	:	Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells.
Reproductive toxicity	:	No toxicity to reproduction Evidence suggests the substance is not a reproductive toxin in animals.
Teratogenicity	:	Evidence suggests the substance is not a developmental toxin in animals.
Titanium dioxide		
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.



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Oral  
Rat

-  
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.

**Quartz**

**Repeated dose toxicity** : Inhalation  
Rat  
-  
Target Organs: Lungs  
Fluid retention in lungs (pulmonary oedema), lung effects,  
Inflammation, Chronic lung disease, Fibrosis

**Carcinogenicity** : Human carcinogen.  
An increased incidence of tumours was observed in laboratory animals.  
An increased risk of cancer in humans has been shown in workplace-based studies.

**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		


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Quartz	1	X
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**SECTION 12. ECOLOGICAL INFORMATION**

## Aquatic Toxicity

## Pyroxsulam

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 87 mg/l OECD Test Guideline 203
7 d EC50	:	Lemna minor (duckweed) OECD Test Guideline 221
48 h EC50	:	Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202
40 d	:	NOEC Pimephales promelas (fathead minnow) 3.2 mg/l
21 d	:	NOEC Daphnia magna (Water flea) 10.4 mg/l

## Cloquintocet-mexyl

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) > 0.97 mg/l
14 d EbC50	:	Lemna minor (duckweed) > 0.42 mg/l
96 h EbC50	:	Scenedesmus capricornutum (fresh water algae) 0.63 mg/l
48 h EC50	:	Daphnia magna (Water flea) > 0.82 mg/l

## Kaolin

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) > 4,887 mg/l
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## 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

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

Not regulated as a hazardous material by DOT.

**SECTION 15. REGULATORY INFORMATION**


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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.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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

Title III hazard classification : Acute Health Hazard: Yes  
Chronic Health Hazard: Yes  
Fire: No  
Reactivity/Physical hazard: No  
Pressure: No

EPA Reg. No. : 352-884  
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**

	NFPA
Health :	2
Flammability :	1
Reactivity/Physical hazard :	0



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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.

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