

**SAFETY DATA SHEET**  
**BROADHEAD™ HERBICIDE**

**SDS # :** 6516-A  
**Revision date:** 2015-04-16  
**Format:** NA  
**Version** 1.01



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** BROADHEAD™ HERBICIDE

**Other means of identification**

**Product Code(s)** 6516-A

**Synonyms** QUINCLORAC: 3,7-dichloroquinoline-8-carboxylic acid; 3,7-dichloro-8-quinolinecarboxylic acid; CARFENTRAZONE-ETHYL (FMC 116426): ethyl  $\alpha$ ,2-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]-4-fluorobenzenepropanoate (CAS name); ethyl (RS)-2-chloro-3-[2-chloro-5-(4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl)-4-fluorophenyl] propionate (IUPAC name)

**Active Ingredient(s)** Quinclorac, Carfentrazone-ethyl

**Chemical Family** Quinoline derivative, Triazolinones

**Alternate Commercial Name** F7275 Herbicide

**Recommended use of the chemical and restrictions on use**

**Recommended Use:** Herbicide

**Restrictions on Use:** Use as recommended by the label

**Manufacturer Address**

FMC Corporation  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

**Emergency telephone number**

Medical Emergencies:  
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)  
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)  
For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

**2. HAZARDS IDENTIFICATION**

**Classification**

**OSHA Regulatory Status**


This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

Skin corrosion/irritation	Category 2
Skin sensitization	Category 1B

**GHS Label elements, including precautionary statements****EMERGENCY OVERVIEW**

<p><b>Warning</b></p> <p><b>Hazard Statements</b>  H315 - Causes skin irritation  H317 - May cause an allergic skin reaction  H332 - Harmful if inhaled</p> 
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**Precautionary Statements - Prevention**

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
P362 + P364 - Take off all contaminated clothing and wash it before reuse  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a POISON CENTER or doctor if you feel unwell

**Precautionary Statements - Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

No hazards not otherwise classified were identified.

**Other Information**

Very toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Family** Quinoline derivative, Triazolinones.

Chemical name	CAS-No	Weight %
Quinclorac	84087-01-4	66.1
Carfentrazone-ethyl	128639-02-1	3.9
Kaolin	1332-58-7	5-10
Synthetic amorphous silica	112926-00-8	1-5

Synonyms are provided in Section 1.

**4. FIRST AID MEASURES****Eye Contact**

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
<b>Inhalation</b>	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 further treatment advice.
<b>Ingestion</b>	Call a poison control center or doctor immediately for treatment advice Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor Do not give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Central nervous system effects.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treatment is symptomatic and supportive.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Carbon dioxide (CO <sub>2</sub> ), Foam, Dry powder, Water spray.
<b>Specific Hazards Arising from the Chemical</b>	Finely dispersed particles can form explosive mixtures in air.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	Wear self-contained breathing apparatus and protective suit.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
<b>Environmental Precautions</b>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
<b>Methods for Containment</b>	Use a wet sweeping compound or water to prevent dust formation.
<b>Methods for cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

**7. HANDLING AND STORAGE**

<b>Handling</b>	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.
<b>Incompatible products</b>	None known

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

<b>Chemical name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH</b>	<b>Mexico</b>
Kaolin 1332-58-7	TWA: 2 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	Mexico: TWA 10 mg/m <sup>3</sup> Mexico: STEL 20 mg/m <sup>3</sup>
Synthetic amorphous silica 112926-00-8	-	-	-	Mexico: TWA 10 mg/m <sup>3</sup>
<b>Chemical name</b>	<b>British Columbia</b>	<b>Quebec</b>	<b>Ontario TWAEV</b>	<b>Alberta</b>
Kaolin 1332-58-7	TWA: 2 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>
Synthetic amorphous silica 112926-00-8	TWA: 4 mg/m <sup>3</sup> TWA: 1.5 mg/m <sup>3</sup>	TWA: 6 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

**Engineering measures** Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** For dust, splash, mist or spray exposure, wear chemical protective goggles.

**Skin and Body Protection** Wear long-sleeved shirt, long pants, socks, and shoes.

**Hand Protection** Protective gloves

**Respiratory Protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

**General information** If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	White to Tan, Granules
<b>Physical State</b>	Solid
<b>Color</b>	White to Tan
<b>Odor</b>	Slight Sweet
<b>Odor threshold</b>	No information available
<b>pH</b>	3.6
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	Not applicable
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	36.53 lb/cu ft
<b>Specific gravity</b>	No information available

<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	No information available

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	None under normal use conditions
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks
<b>Incompatible materials</b>	None known.
<b>Hazardous Decomposition Products</b>	Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride, Nitrogen oxides (NOx).

**11. TOXICOLOGICAL INFORMATION**

**Product Information**

<b>LD50 Oral</b>	3129 mg/kg (rat)
<b>LD50 Dermal</b>	> 2000 mg/kg (rat)
<b>LC50 Inhalation</b>	> 2.06 mg/L 4 hr (rat)
<b>Serious eye damage/eye irritation</b>	Moderately irritating to eyes.
<b>Skin corrosion/irritation</b>	Moderately irritating.
<b>Sensitization</b>	Sensitizer

**Information on toxicological effects**

<b>Symptoms</b>	Signs of toxicity with carfentrazone-ethyl, in laboratory animals, included tremors, abdominal gripping, mucoid anal discharge, bloody oral discharge, hypothermia, squinting eyes, lacrimation, and pink to orange-brown discoloration of urine.
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**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Chronic toxicity</b>	Carfentrazone-ethyl: Long-term exposure caused hematotoxicity and deposit of porphyrin in the liver in animal studies. Quinclorac: Prolonged exposure caused decreased body weight, increased liver enzyme and focal chronic interstitial nephritis.
<b>Mutagenicity</b>	Quinclorac, Carfentrazone-ethyl : Not genotoxic in laboratory studies.
<b>Carcinogenicity</b>	Quinclorac, Carfentrazone-ethyl : No evidence of carcinogenicity from animal studies. This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product.
<b>Neurological effects</b>	Quinclorac: No neurotoxicity observed in animal studies. Carfentrazone-ethyl : Not neurotoxic.
<b>Reproductive toxicity</b>	Quinclorac, Carfentrazone-ethyl : No toxicity to reproduction in animal studies.
<b>Developmental toxicity</b>	Quinclorac, Carfentrazone-ethyl : Not teratogenic in animal studies.
<b>STOT - single exposure</b>	Not classified.
<b>STOT - repeated exposure</b>	Not classified.

**Neurological effects**

Quinclorac: No neurotoxicity observed in animal studies. Carfentrazone-ethyl : Not neurotoxic.

**Aspiration hazard**

No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Synthetic amorphous silica 112926-00-8		Group 3		

**Legend:**

- ACGIH (American Conference of Governmental Industrial Hygienists)
- A2 - Suspected Human Carcinogen
- IARC (International Agency for Research on Cancer)
- Group 3 - Not classifiable as to its carcinogenicity to humans
- Group 1 - Carcinogenic to Humans
- NTP (National Toxicology Program)
- Known - Known Carcinogen
- OSHA (Occupational Safety and Health Administration of the US Department of Labor)
- X - Present

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

<b>Quinclorac (84087-01-4)</b>				
Active Ingredient(s)	Duration	Species	Value	Units
Quinclorac	72 h EC50	Algae	6.53	mg/L
	48 h EC50	Daphnia	29.8	mg/L
	96 h LC50	Fish	>100	mg/L
	21 d NOEC	Crustacea	50.4	mg/L

<b>Carfentrazone-ethyl (128639-02-1)</b>				
Active Ingredient(s)	Duration	Species	Value	Units
Carfentrazone-ethyl	72 h EC50	Algae	0.012	mg/L
	96 h LC50	Fish	1.6	mg/L
	48 h LC50	Daphnia	>9.8	mg/L
	96 h NOEC	Algae	1.0	µg/L
	21 d NOEC	Fish	0.0187	mg/L
	21 d NOEC	Crustacea	0.22	mg/L

**Persistence and degradability**

Quinclorac: Persistent. Does not readily hydrolyze. Not readily biodegradable.  
 Carfentrazone-ethyl : Non-persistent. Readily hydrolyzed. Not readily biodegradable.

**Bioaccumulation**

Quinclorac, Carfentrazone-ethyl : The substance does not have a potential for bioconcentration.

**Mobility**

Quinclorac: Mobile, Has potential to reach ground water. Carfentrazone-ethyl : Mobility in soil: Not relevant.

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

**Contaminated Packaging**

Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

**14. TRANSPORT INFORMATION**

**DOT** This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

**TDG** Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

<b>UN/ID no</b>	UN3077
<b>Proper Shipping Name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Hazard class</b>	9
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	Carfentrazone-ethyl .
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Carfentrazone-ethyl), 9, PGIII, Marine Pollutant

**ICAO/IATA**

<b>UN/ID no</b>	UN3077
<b>Proper Shipping Name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Hazard class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Carfentrazone-ethyl), 9, PGIII, Marine Pollutant

**IMDG/IMO**

<b>UN/ID no</b>	UN3077
<b>Proper Shipping Name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Hazard class</b>	9
<b>Packing Group</b>	III
<b>EmS No.</b>	F-A, S-F
<b>Marine Pollutant</b>	Carfentrazone-ethyl
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Carfentrazone-ethyl), 9, PGIII, Marine Pollutant

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**  
 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic health hazard</b>	Yes
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**FIFRA Information**

*This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:*

**CAUTION**

*Causes moderate eye irritation. Harmful if swallowed or absorbed through skin.  
 This pesticide is very toxic to algae and moderately toxic to fish.*

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Prop. 65
crystalline silica, quartz - 14808-60-7	Carcinogen
Formaldehyde - 50-00-0	Carcinogen
Naphthalene - 91-20-3	Carcinogen

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

**International Inventories**

Component	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Quinclorac 84087-01-4 ( 66.1 )		X	X		X		X	X
Carfentrazone-ethyl 128639-02-1 ( 3.9 )					X			
Kaolin 1332-58-7 ( 5-10 )	X	X	X	X	X	X	X	X
Synthetic amorphous silica 112926-00-8 ( 1-5 )		X		X	X	X	X	X

**Mexico - Grade** Moderate risk, Grade 2

**WHMIS Hazard Class** D2B - Toxic materials



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Physical hazard</b> 0	<b>Personal Protection</b> X

**Revision date:** 2015-04-16  
**Revision note** (M)SDS sections updated



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**End of Safety Data Sheet**