

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 α ,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>Warning</p> <p>Hazard Statements H315 - Causes skin irritation H317 - May cause an allergic skin reaction H332 - Harmful if inhaled</p> 

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.

Skin Contact	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.
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 further treatment advice.
Ingestion	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.
Most important symptoms and effects, both acute and delayed	Central nervous system effects.
Indication of immediate medical attention and special treatment needed, if necessary	Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

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

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	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.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
Methods for Containment	Use a wet sweeping compound or water to prevent dust formation.
Methods for cleaning up	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

Handling	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
Storage	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.
Incompatible products	None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

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

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

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

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Product Information

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

Information on toxicological effects

Symptoms	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

Chronic toxicity	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.
Mutagenicity	Quinclorac, Carfentrazone-ethyl : Not genotoxic in laboratory studies.
Carcinogenicity	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.
Neurological effects	Quinclorac: No neurotoxicity observed in animal studies. Carfentrazone-ethyl : Not neurotoxic.
Reproductive toxicity	Quinclorac, Carfentrazone-ethyl : No toxicity to reproduction in animal studies.
Developmental toxicity	Quinclorac, Carfentrazone-ethyl : Not teratogenic in animal studies.
STOT - single exposure	Not classified.
STOT - repeated exposure	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

Quinclorac (84087-01-4)				
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

Carfentrazone-ethyl (128639-02-1)				
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.

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

ICAO/IATA

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

IMDG/IMO

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

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	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

NFPA	Health Hazards 2	Flammability 0	Instability 0	Special Hazards -
HMIS	Health Hazards 2	Flammability 0	Physical hazard 0	Personal Protection X

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

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End of Safety Data Sheet