

Material Safety Data Sheet

COMMAND® 3 ME MICROENCAPSULATED HERBICIDE

SDS # : 6270-A
Revision Date: 2012-01-25
Version 0.01



This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	COMMAND® 3 ME MICROENCAPSULATED HERBICIDE
Formula code	6270-A
Active Ingredient(s)	Clomazone
Alternate Commercial Name	Command® 360 ME, Command® 36 CS, Command® 360 CS, Command® CS, Centium™ 36 CS, Cirrus™ 36 CS, Cirrus™ CS, Gamit® 36 CS, Gamit® 360 CS, Gamit® CS, Magister CS
Synonyms	FMC 57020; 2-(2-chlorobenzyl)-4,4-dimethyl-1,2-oxazolidin-3-one; 2-[(2-chlorophenyl)methyl]-4,4-dimethyl-3-isoxazolidinone
Chemical Family	Triazolinones
Recommended use	Herbicide
Manufacturer FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com	<u>Emergency telephone number</u> 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), Medical Emergencies: (800) 331-3148 (U.S.A. & Canada) +1 (651) 632-6793 (All Other Countries - Collect)

2. Hazards identification

<u>Appearance</u>	brown liquid
<u>Physical state</u>	liquid
<u>Odor</u>	slight aromatic
Flammable properties	Not flammable.
<u>Potential health effects</u>	
<u>Principle Routes of Exposure</u>	Eye contact, Skin contact, Inhalation, Ingestion.
Acute effects	
Eyes	May cause slight irritation.
Skin	Substance may cause slight skin irritation.
Inhalation	May cause irritation of respiratory tract.

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Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression.

Chronic effects Effects are expected to be similar to those that are seen with acute toxicity.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No	Weight %
Clomazone	81777-89-1	31.4
Sodium Nitrate	7631-99-4	1-5
Calcium chloride	10043-52-4	1-5
1,6-hexanediamine (70%)	124-09-4	1-5

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 treatment advice.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by 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 a 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.

5. Fire-fighting measures

Flammable properties Not flammable.

Flash Point > 94 °C / > 201 °F
Method Tag Open Cup

Sensitivity to Mechanical Impact not applicable
Sensitivity to Static Discharge not applicable

Suitable extinguishing media Carbon dioxide (CO₂), Water spray, Foam, Dry chemical.

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit.

NFPA

Health Hazard	1
Flammability	1
Stability	0
Special Hazards	-

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.

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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	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	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.
Other	For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

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. Store in original container only.

8. Exposure controls/personal protection

Exposure guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
1,6-hexanediamine (70%) 124-09-4	TWA: 0.5 ppm			

Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
Calcium chloride 10043-52-4			TWA: 5 mg/m ³	
1,6-hexanediamine (70%) 124-09-4	TWA: 0.5 ppm	TWA: 0.5 ppm TWA: 2.3 mg/m ³	TWA: 0.5 ppm	TWA: 0.5 ppm TWA: 2.4 mg/m ³

Occupational exposure 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.
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Personal Protective Equipment

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.
Respiratory protection	For dust, splash, mist or spray exposures wear a filtering mask.
Eye/face protection	For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield
Skin and body protection	Wear long-sleeved shirt, long pants, socks, shoes, and gloves.
Hand protection	Protective gloves

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.

9. Physical and chemical properties

Appearance	brown liquid
Color	brown
Physical state	liquid
Odor	slight aromatic
pH	6.5 @ 20°C
Melting Point/Range	No information available.
Freezing point	No information available
Boiling Point/Range	not applicable
Flash Point	> 94 °C / > 201 °F Tag Open Cup
Evaporation rate	not applicable
Autoignition Temperature	not applicable
Flammable properties	Not flammable.
Vapor pressure	No information available
Vapor density	No information available
Water solubility	Dispersible in water
Percent volatile	No information available
Partition coefficient:	not applicable
Viscosity	No information available
Oxidizing properties	not applicable

10. Stability and reactivity

Stability	Stable.
Conditions to avoid	Heat, flames and sparks
Hazardous decomposition products	Carbon oxides, nitrogen oxides (NOx), Chlorine, Hydrogen chloride.
Hazardous polymerization	Hazardous polymerization does not occur

11. Toxicological information

Eye contact	Non-irritating.
Skin contact	Non-irritating during normal use.
Ingestion	Large dosages of clomazone ingested by laboratory animals produced signs of toxicity including ataxia, decreased activity, oral discharge, lacrimation, bloody tears, and nasal discharge.
LD50 Dermal	> 5000 mg/kg (rat)
LD50 Oral	> 5000 mg/kg (rat)
LC50 Inhalation:	> 5.21 mg/L 4 hr (rat) - Maximum attainable concentration (zero mortality)

Chronic Toxicity - Other Ingredient(s)

Chronic Toxicity	Effects are expected to be similar to those that are seen with acute toxicity.
Carcinogenicity	Not carcinogenic
Mutagenicity	Not genotoxic

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Reproductive toxicity	No toxicity to reproduction
Developmental Toxicity	Not teratogenic in animal studies
Target Organ Effects	Liver enlargement is often noted in laboratory animals that have ingested large doses of during their life span.

12. Ecological information**Ecotoxicity****Clomazone (81777-89-1)**

Active Ingredient(s)	Duration	Species	Value	Units
Clomazone	120 h EC50	Algae	3.7	mg/L
	48 h LC50	Daphnia	>9.8	mg/L
	96 h LC50	Fish	15.5	mg/L

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Calcium chloride		LC50 10650 mg/L Lepomis macrochirus 96 h		EC50 52 mg/L 48 h
1,6-hexanediamine (70%)	15 mg/L EC50 72 h (Pseudokirchneriella subcapitata) 14.8 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	LC50 > 56 mg/L Lepomis macrochirus 96 h LC50 62 mg/L Leuciscus idus 96 h LC50 1825 mg/L Pimephales promelas 96 h		EC50 23.4 mg/L 48 h

Environmental Fate**Clomazone (81777-89-1)**

Active Ingredient(s)	Type of Test	Result
Clomazone	log Pow	2.5
	Half-life in soil	~30 days
	Bioconcentration factor (BCF)	30
	Mobility in soil	Not expected to reach groundwater
	Stability in water	Stable to hydrolysis over a wide range of pH values.

Chemical Name	log Pow
1,6-hexanediamine (70%)	0.02

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.

Packaging Type Bulk, Non-Bulk

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

Proper shipping name Environmentally hazardous substance, liquid, n.o. s.

Hazard Class 9

UN/ID No UN3082

Packing group III

Marine pollutant Clomazone.

Description Environmentally hazardous substance, liquid, n.o.s. (Clomazone), UN3082, Marine Pollutant

ICAO/IATA

UN/ID No UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o. s.

Hazard Class 9

Packing group III

Marine pollutant Clomazone

Description Environmentally hazardous substance, liquid, n.o.s. (Clomazone), UN3082, Marine Pollutant

Limited quantity 914 / 450 L

IMDG/IMO

Proper shipping name Environmentally hazardous substance, liquid, n.o. s.

Hazard Class 9

UN/ID No UN3082

Packing group III

EmS No. F-A, S-F

Marine pollutant Clomazone

Description Environmentally hazardous substance, liquid, n.o.s. (Clomazone), UN3082, 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 does not contain any 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

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.

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International Regulations

Mexico - Grade

Slight risk, Grade 1

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Non-controlled

16. Other information

Revision Date:

2012-01-25

Reason for revision:

(M)SDS sections updated.

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Prepared By

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End of Material Safety Data Sheet