# 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Name**  
Command® 3 ME Microencapsulated Herbicide

**Other means of identification**

**Product Code(s)**  
1693-A

**Synonyms**  
Clomazone (F57020): 2-(2-chlorobenzyl)-4,4-dimethyl-1,2-oxazolidin-3-one (IUPAC name); 2-[(2-chlorophenyl)methyl]-4,4-dimethyl-3-isoxazolidinone (CAS Name)

**Active Ingredient(s)**  
Clomazone

**Chemical Family**  
Triazolinones

**Alternate Commercial Name**  
Command® 360 ME, Command® 36 CS, Command® 360 CS, Command® CS, Centium™ 36 CS, Cirrus™ 36 CS, Cirrus™ CS, Magister CS

**PCP #**  
27827

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

**Recommended Use:**  
Herbicide

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

**Supplier Address**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

**Emergency telephone number**

For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527 3887 (CHEMTREC - Alternate)

Medical Emergencies:  
1 800 / 331-3148 (ProPharma Group - U.S.A. & Canada)  
1 651 / 632-6793 (ProPharma Group - All Other Countries - Collect)

---

# 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 sensitization**  
Category 1B

### GHS Label elements, including precautionary statements

#### EMERGENCY OVERVIEW

**Warning**

**Hazard Statements**  
H317 - May cause an allergic skin reaction  
H332 - Harmful if inhaled

#### Precautionary Statements - Prevention
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
- P271 - Use only outdoors or in a well-ventilated area  
- P272 - Contaminated work clothing should not be allowed out of the workplace  
- P280 - Wear protective gloves

#### Precautionary Statements - Response
- P321 - Specific treatment (see supplemental first aid instructions on label)  
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
- P363 - Wash contaminated clothing before reuse  
- 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
Triazolinones.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clomazone</td>
<td>81777-89-1</td>
<td>31</td>
</tr>
<tr>
<td>Sodium Nitrate</td>
<td>7631-99-4</td>
<td>1-5</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>10043-52-4</td>
<td>1-5</td>
</tr>
<tr>
<td>1,6-hexanediamine (70%)</td>
<td>124-09-4</td>
<td>1-5</td>
</tr>
</tbody>
</table>

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, contact emergency medical services, 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**
Symptoms of overexposure include decreased activity, tearing eyes, bleeding from the nose and incoordination.

**Indication of immediate medical attention and special treatment needed, if necessary**
Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Carbon dioxide (CO$_2$), Water spray, Foam, Dry chemical.

**Specific Hazards Arising from the Chemical**
Not flammable

**Explosion data**
Not sensitive.

**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**
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 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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,6-hexanediamine (70%) (124-09-4)</td>
<td>TWA: 0.5 ppm</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Chemical name | British Columbia | Quebec | Ontario TWAEV | Alberta |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride (10043-52-4)</td>
<td>-</td>
<td>-</td>
<td>TWA: 5 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>1,6-hexanediamine (70%) (124-09-4)</td>
<td>TWA: 0.5 ppm</td>
<td>TWA: 0.5 ppm</td>
<td>TWA: 2.3 mg/m³</td>
<td>TWA: 0.5 ppm</td>
</tr>
</tbody>
</table>

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
For dust, splash, mist or spray exposures wear a filtering mask.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Brown Liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Aromatic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6.5 @ 20°C</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 94 °C / &gt; 201 °F Tag Closed Cup</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>9.59 lb/gal</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Dispersible in water</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
Not applicable

Chemical Stability
Stable.

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), nitrogen oxides (NOx), chlorine, hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral
> 5000 mg/kg (rat)

LD50 Dermal
> 5000 mg/kg (rat)

LC50 Inhalation
> 3.86 mg/L 4 hr (rat) - Maximum attainable concentration (zero mortality)

Serious eye damage/eye irritation
Non-irritating.

Skin corrosion/irritation
Non-irritating.

Sensitization
Mild sensitizer

Information on toxicological effects

Symptoms
Large dosages of clomazone ingested by laboratory animals produced signs of toxicity including ataxia, decreased activity, oral discharge, lacrimation, bloody tears, and nasal discharge.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity
Clomazone: Long-term exposure caused slight liver weight increase and hepatocyte enlargement in animal studies

Mutagenicity
Clomazone: Not genotoxic in animal studies

Carcinogenicity
Clomazone: No evidence of carcinogenicity from animal studies.

Neurological effects
Clomazone: Not neurotoxic

Reproductive toxicity
Clomazone: No toxicity to reproduction in animal studies.

Developmental toxicity
Clomazone: Not teratogenic in animal studies.

STOT - single exposure
None under normal use conditions.

STOT - repeated exposure
None under normal use conditions.

Target organ effects
Clomazone: Liver

Neurological effects
Clomazone: Not neurotoxic

Aspiration hazard
No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Nitrate 7631-99-4</td>
<td></td>
<td>Group 2A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
IARC (International Agency for Research on Cancer)
12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clomazone</td>
<td>72 h EC50</td>
<td>Algae</td>
<td>0.136</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>48 h EC50</td>
<td>Crustacea</td>
<td>12.7</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>96 h LC50</td>
<td>Fish</td>
<td>15.5</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Fish</td>
<td>2.30</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Crustacea</td>
<td>2.2</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>96 h NOEC</td>
<td>Algae</td>
<td>0.05</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

Persistence and degradability


Bioaccumulation

Clomazone: The substance does not have a potential for bioconcentration.

Mobility

Clomazone: Moderately mobile. Has some potential to reach groundwater.

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. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

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

Not regulated

ICAO/IATA

Not regulated

IMDG/IMO

Not regulated

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>
Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>64-19-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1000 lb</td>
<td></td>
</tr>
<tr>
<td>1310-73-2</td>
<td>454 kg</td>
<td></td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>5000 lb</td>
<td></td>
</tr>
<tr>
<td>64-19-7</td>
<td>2270 kg</td>
<td></td>
</tr>
</tbody>
</table>

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 eye irritation.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Nitrate</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7631-99-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,6-hexanediame (70%)</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>124-09-4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

International Inventories

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINC S (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clomazone</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>81777-89-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Nitrate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7631-99-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10043-52-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,6-hexanediame (70%)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>124-09-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mexico - Grade
Moderate risk, Grade 2

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use - Threshold Quantities</th>
<th>Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene diphenyl diisocyanate (polymeric)</td>
<td>100 5000 kg/yr</td>
<td>100 kg/yr</td>
</tr>
</tbody>
</table>

WHMIS Statement
This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION

NFPA
<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

HMIS
<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2*</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend
Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2018-01-17
Reason for revision: (M)SDS sections updated

Disclaimer
FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By:
FMC Corporation

FMC Logo - Trademark of FMC Corporation

© 2018 FMC Corporation. All Rights Reserved.

End of Safety Data Sheet