

MATERIAL SAFETY DATA SHEET

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Date of Issue: June 2009
MSDS No. FMC/COM/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: COMMAND 480 EC HERBICIDE
(Non Flammable formulation)

Other Names: Clomazone.
Use: Agricultural Herbicide or the control of certain annual broadleaf weeds in a range of crops.
Company: FMC Australasia Pty Ltd.
Address: Unit 26, 8 Metroplex Ave, Murarrie, Qld 4172
Telephone Number: 07 3908 9222 **Fax Number:** 07 3908 9221
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide).

SECTION 2 HAZARDS IDENTIFICATION

Classified as hazardous according to criteria of the Work Safe Australia.
Not classified as a Dangerous Good according to the ADG Code

Risk phrases: R20/22 Harmful by inhalation and if swallowed
R36/37 Irritating to eyes and respiratory system.
R65 Harmful: May cause lung damage if swallowed.

Safety Phrases: S2 Keep out of reach of children.
S23 Do not breathe vapour or spray.
S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION (% w/w)
Clomazone	81777-89-1	480 g/L
Liquid Hydrocarbons	64742-94-5	30 - 60%
Other ingredients determined not to be hazardous	mixture	Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do not induce vomiting. Give a glass of water. If any discomfort persists seek medical advice.

Eye: If in eyes, hold eyes open, flood with water. If discomfort persists see a doctor.

Skin: If on skin wash with plenty of soap and water. Remove contaminated clothing. If irritation occurs and persists see a doctor.

Inhaled: Remove patient to fresh air. If breathing discomfort occurs, obtain medical attention.

SECTION 4 FIRST AID MEASURES (Continued)

Advice to Doctors: Clomazone has generally low acute toxicity. This product may be irritating. Direct contact with eyes may produce corneal damage, especially if not washed out immediately. Inert ingredients contain aromatic solvents which may produce a chemical pneumonitis; therefore, vomiting is not recommended, and lavage requires intubation. Activated charcoal and cathartics will assist gastrointestinal tract evacuation.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Product is a combustible liquid. Flash point 71°C.

Extinguishing media: Foam, CO₂ or dry chemical. Soft stream water fog if no alternatives. Contain all runoff.

Hazards from combustion products: On burning will emit toxic fumes.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Vacuum shovel or pump spilled material into an approved container and dispose of as listed below.

Material and methods for containment and cleanup procedures: To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

Dispose of waste as indicated below or according to Australian Standard 2507 - Storage & Handling of Pesticides. Wear protective clothing such as full body cover barrier suit, eg. a rubber rain suit. Keep out unprotected persons and animals.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Ensure containers are kept closed until using product. Avoid skin and eye contact and breathing vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length nitrile gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length nitrile gloves.

Conditions for Safe Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers.

This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to state regulations for storage and transport requirements.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:

No exposure standard for clomazone or the other ingredients have been established by Work Safe Australia.

Biological Limit Values:

No biological limit allocated.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Engineering controls:

Use in well ventilated area only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers close when not in use.

Personal Protective equipment (PPE):

Work Clothing: Wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length nitrile gloves and face shield or goggles.

Eye Protection: When using product, wear chemical protective goggles or face shield.

Respiratory Protection: If inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

Gloves: Wear chemical protective gloves made of materials such as nitrile, Viton[®] brand or PVC when handling this product. Inspect regularly for leaks. Wash the outside of gloves with soap and water prior to removal.

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Straw yellow to tan coloured liquid
Boiling point:	Not available.
Freezing point:	Not available.
Specific Gravity:	1.02 g/mL.
pH:	5.1 - 6.1.
Solubility in Water:	Product emulsifies in water. (clomazone = 1100 ppm).
Flammability:	Combustible liquid.
Corrosive hazard:	Non corrosive; compatible with stainless steel containers & polyethylene used in spray tanks and parts.
Flashpoint (°C):	71°C.
Flammability Limits (%):	Not established.
Poisons Schedule:	Product is a schedule 6 poison.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Keep away from sources of heat and naked flames.

Incompatible materials: No particular materials to avoid.

Hazardous decomposition products: When the product is heated to high temperatures, the active constituent will decompose and emit toxic fumes.

Hazardous reactions: No particular reactions to avoid.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential Health Effects:

Studies with laboratory animals have shown this product to have low oral, dermal and inhalation toxicity. Symptoms of overexposure to clomazone include decreased activity, tearing eyes, bleeding from the nose and incoordination.

Acute

Swallowed: The product has low toxicity; the oral LD₅₀ in the rat is 1406 mg/kg.

Eye: Moderately irritating to the eyes.

Skin: This product has a low dermal toxicity. The dermal LD₅₀ in the rabbit is > 2000 mg/kg. It is non-sensitising to the skin. Skin contact may result in irritation with a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Inhaled: Inhalation of vapour may produce irritation of the mucous membranes of the respiratory tract. Acute inhalation LC₅₀ = 4.47 mg/L/4 hour.

Chronic: In studies with laboratory animals, clomazone did not cause reproductive toxicity, teratogenicity or carcinogenicity. Liver enlargement and elevated cholesterol levels are often noted in laboratory animals that have ingested large doses of clomazone during their lifespan. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosomal aberrations.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Information: No data is available on Command 480 EC Herbicide. Toxicity data is on the active constituent, Clomazone.

Environmental Toxicology: Clomazone has moderate to slight toxicity to aquatic algae, arthropods and fish. Clomazone is slightly toxic to birds. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

Environmental Properties: Clomazone is readily degraded in soils under aerobic and anaerobic conditions (half life = 1 to 4.5 months). Clomazone is stable to chemical hydrolysis. Clomazone has a low potential for movement in the soil, and with a Log P_{ow} of 2.5 and a bioconcentration factor of 27, is unlikely to accumulate in the environment.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills & Disposal: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Break, crush, puncture and bury empty containers in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

SECTION 14 TRANSPORT INFORMATION

Transport: This product is not classified as a Dangerous Good. Product is a C1 combustible liquid.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of Safe Work Australia. (Xi - Irritant, Xn - Harmful).

Under the Standard for Uniform Scheduling of Drugs and Poisons (SUSDP), this product is a schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 49604.

Product is not classified as a Dangerous Good according to the ADG Code (7th Ed).

SECTION 16 OTHER INFORMATION

CONTACT POINT: The Manager, FMC Australasia Pty Ltd., Murarrie, Brisbane Qld. 4172.
Telephone: 07 - 3908 9222 Facsimile: 07 - 3908 9221

Issue Date: 17 June 2009 (revised issue). Revision to update address details.

Key to abbreviations and acronyms used in this MSDS:

ADG Code	Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
Carcinogen	An agent which is responsible for the formation of a cancer.
Genotoxic	Capable of causing damage to genetic material, such as DNA.
Hypotonia	A condition of abnormally low muscle tone.
Mutagenic	Able to produce a mutation (a change in the genetic material of cells).
Neurotoxicity	An adverse change in the structure or function of the nervous system.
NOHSC	National Occupational Health and Safety Commission.
Oedema	Accumulation of fluid in tissues.
PPE	Personal protective equipment.
Teratogen	An agent capable of causing abnormalities in a developing foetus, that is causing birth defects.
STEL	Short Term Exposure Limits
TWA	The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.
Safe Work Australia:	Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC)).

References

1. "Search Hazardous Substances". HSIS Safe Work Australia website. (2009).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End of MSDS