

Thyborønvej 78 DK-7673 Harboøre

Denmark +45 9690 9690 www.fmc.com

CVR No. DK 12 76 00 43

Product code	-	Page 1 of 12
Product name Clomazone Capsule Suspension MUP		
		Revision: September 2020
Safety data sheet according to EU Reg. 1907/2006 as amended		Supersedes September 2016

SAFETY DATA SHEET

Clomazone Capsule Suspension MUP

Revision: Sections containing a revision or new information are marked with a .

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier Clomazone Capsule Suspension MUP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Can be used as chemical intermediate for production of herbicides

only.

1.3. Details of the supplier of the safety data sheet

FMC Agricultural Solutions A/S

Thyborønvej 78 DK-7673 Harboøre

Denmark

SDS.Ronland@fmc.com

1.4. Emergency telephone number

Medical emergencies:

Austria: +43 1 406 43 43 Malta: 112

Belgium: +32 70 245 245 Netherlands: +31 30 274 88 88 Bulgaria: +359 2 9154 409 Norway: +47 22 591300 Poland: +48 22 619 66 54

Czech Republic: +420 224 919 293

+420 224 915 402 Portugal: 800 250 250 (in Portugal only)

Denmark: +45 82 12 12 12 +351 21 330 3284
England and Wales: 111 Romania: +40 21318 3606
Estonia: +372 7943500 Scotland: +8454 24 24 24
Finland: +358 9 471 977 Slovakia: +421 2 54 77 4 166
France: +33 (0) 1 45 42 59 59 Slovenia: +386 41 650 500

Greece: 30 210 77 93 777 South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.)

+48 22 619 08 97

Hungary: +36 80 20 11 99 Spain: +34 91 562 04 20 Ireland (Republic): +353 1 837 9964 Sweden: +46 08-331231

Italy: +39 02 6610 1029 112 Latvia: +371 670 42 473 Switzerland: 145

112 Turkey: 114

Lithuania: +370 523 62052 U.S.A. & Canada: +1 800 / 331 3148 +370 687 53378 All other countries: +1 651 / 632 6793 (Collect)

Luxembourg: +352 8002 5500

For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 / 424 9300 (CHEMTREC)

All other countries: +1 703 / 741 5970 (CHEMTREC - Collect)



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SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or** Eye irritation: Category 2 (H319)

mixture Hazards to the aquatic environment, chronic: Category 2 (H411)

Health hazards The product may cause eye irritation.

2.2. Label elements

According to EU Reg. 1272/2008 as amended

Hazard pictograms (GHS07, GHS09)





Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Supplementary hazard statement

EUH401 To avoid risks to human health and the environment, comply with the

instructions of use.

Precautionary statements

P280 Wear eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical attention.

P501 Dispose of contents and container as hazardous waste.

or vPvB.

♣ SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. **Mixtures** See section 16 for full text of hazard statements.



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The product is a suspension of porous microcapsules which contain the active ingredient clomazone.

rinse mouth and drink fluids again. Get medical attention immediately.

Active ingredient

Clomazone Content: 33% w/w

CAS no. 81777-89-1

2-(2-Chlorobenzyl)-4,4-dimethylisoxazolidin-3-one

ISO-name Clomazone

EC no. (EINECS no.) None
EU index no. None
Molecular weight 239.70

Classification of the ingredient Acute oral toxicity: Category 4 (H302)

Acute inhalation toxicity: Category 4 (H332)

Hazards to the aquatic environment,

acute: Category 1 (H400), M-factor 1 chronic: Category 1 (H410), M-factor 1

Reportable ingredients	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
Sodium nitrate Reg. no. 01-2119488221-41	10	7631-99-4	231-554-3	Ox. Sol. 3 (H272) Eye Irrit. 2 (H319)
Lignosulfonic acid, sodium salt, sulfomethylated	1	68512-34-5	None	Eye Irrit. 2 (H319)

♣ SECTION 4: FIRST AID MEASURES

11	Description of first aid measures	
4.1.	Description of first aid measures Inhalation	If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
	Skin contact	Immediately remove contaminated clothing and footwear. Flush skin with water. Wash with water and soap. Get medical attention if any symptom develops.
	Eye contact	Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. Get medical attention if irritation persists.
	Ingestion	Let the exposed person rinse mouth and drink several glasses of water or milk, but not induce vomiting. If vomiting does occur, let him/her



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4.2. Most important symptoms and effects, both acute and delayed

When fed to animals, the active ingredient in this product caused decreased activity, tearing eyes, bleeding from the nose and incoordination

4.3. Indication of any immediate medical attention and special treatment needed

Immediate medical attention is required in case of ingestion.

It may be helpful to show this safety data sheet to physician.

Notes to physician

A specific antidote for exposure to this material is not known. Gastric lavage and/or the administration of activated charcoal can be considered. After decontamination, treatment should be directed at the control of symptoms and the clinical condition.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

The essential breakdown products are volatile, malodorous, toxic, irritant and inflammable compounds such as hydrogen chloride, nitrogen oxides, carbon monoxide, carbon dioxide and various chlorinated organic compounds.

5.3. Advice for firefighters

Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):

- 1. use personal protection equipment; see section 8
- 2. call emergency telephone no.; see section 1
- 3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.

Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area.

6.2. Environmental precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water



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drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and materials for containment and cleaning up

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with detergent and much water. Absorb wash liquid with absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. Reference to other sections

See subsection 8.2. for personal protection. See section 13 for disposal.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

In an industrial environment, it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.



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7.2. Conditions for safe storage, including any incompatibilities

The product is stable under normal conditions of warehouse storage.

Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

7.3. **Specific end use(s)**

The product is meant for the production of pesticides. which may be used for officially allowed purposes only.

♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

product. However, personal exposure limits defined by local

regulations may exist and must be observed.

Clomazone

DNEL Not established

The EFSA has established an AOEL of 0.133 mg/kg bw/day

PNEC, aquatic environment 0.22 mg/l

Sodium nitrate

8.2. Exposure controls

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the

system. Consider the need to render equipment or piping systems non-

hazardous before opening.

In cases of incidental high exposure, maximal personal protection may be necessary, such as respirator, face mask, chemical resistant

coveralls.



Respiratory protection

The product does not automatically present an airborne exposure concern when handled carefully, but in the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves

Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection.



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Eye protection

Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for

eye contact.



Other skin protection

Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

♣ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Liquid (suspension)

Colour Tan

Not determined Odour Melting point/freezing point Not determined

Boiling point or initial boiling point

and boiling range Not determined

Flammability Not expected to be ignitable

Lower and upper explosive limit ... Not determined

Not determined, but expected to be > 100 if any Flash point

Not determined Auto-ignition temperature Decomposition temperature Not determined

pH 1% dilution in water: 6.5

 $45 \text{ mm}^2/\text{s}$ Kinematic viscosity

Solubility The product is dispersible in water.

Clomazone is soluble in acetone, acetonitrile, chloroform, cyclohexanone, dichloromethane, methanol, toluene, heptane,

dimethylformamide.

Solubility of clomazone in water: 1100 mg/l

Organic solvents tend to extract the active ingredient from the

capsules.

Partition coefficient n-octanol/water

: $\log K_{ow} = 2.5$ (log value) Clomazone

: 1.92 x 10⁻² Pa at 25°C Vapour pressure Clomazone

Density and/or relative density Density: 1.110 g/ml Relative vapour density Not determined Particle characteristics Not applicable (liquid)

9.2. Other information No more relevant information is available.

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity** To our knowledge, the product has no special reactivities.



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10.2.	Chemical stability	The product is stable during normal handling and storage at ambient temperatures.
10.3.	Possibility of hazardous reactions	None known.
10.4.	Conditions to avoid	Heating of the product will evolve harmful and irritant vapours.
10.5.	Incompatible materials	None known.
10.6.	Hazardous decomposition products	See subsection 5.2.

♣ SECTION 11: TOXICOLOGICAL INFORMATION

11.1.	Information on hazard classes as
	defined in Regulation (EC) No
	1272/2008

Reproductive toxicity

STOT – single exposure

STOT – repeated exposure

Aspiration hazard

* = Based on available data, the classification criteria are not met.

12/2/2000		
Product Acute toxicity		The product is not considered as harmful by single exposures. * The acute toxicity is estimated as:
Route(s) of entry - ingestion		LD_{50} , oral, rat: $> 2000 \text{ mg/kg}$
	- skin	LD_{50} , dermal, rat: $> 2000 \text{ mg/kg}$
	- inhalation	LC_{50} , inhalation, rat: $> 5 \text{ mg/l/4 h}$
Skin corrosion/irritation		May be slightly irritating to skin. *
Serious eye damage/irritation		May be irritating to eyes.
Respiratory or skin sensitisation		Not expected to be sensitising. *
Germ cell mutagenicity		The product contains no ingredients known to be mutagenic. *
Carcinogenicity		The product contains no ingredients known to be carcinogenic. *

May be irritating to eyes.

Not expected to be sensitising. *

The product contains no ingredients known to be mutagenic. *

The product contains no ingredients known to be carcinogenic. *

The product contains no ingredients found to have adverse effects on reproduction. *

To our knowledge, no specific effects have been observed after single exposure. *

The following has been measured on the active ingredient clomazone: Target organ: liver

LOAEL: 4000 ppm (400 mg/kg bw/day) in a 90-day rat study (method OECD 408). At this dose level, increased liver weight and increased cholesterol were seen. *



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Clomazone

This formulation contains **microencapsulated clomazone**. The toxicity of encapsulated clomazone is lower than that of clomazone itself. It approaches the toxicity of clomazone only in cases where grinding actions break up the capsules, thus freeing the active ingredient.

Toxicokinetics, metabolism and Clomazone is rapidly absorbed and excreted. It is widely distributed in distribution the body and almost completely metabolised. There is no evidence of accumulation. Acute toxicity Clomazone is harmful by ingestion. The acute toxicity is measured as: LD₅₀, oral, rat (female): 768 mg/kg (method OECD 425) Route(s) of entry - ingestion LD_{50} , dermal, rat: > 2000 mg/kg (method OECD 402) * - skin - inhalation LC_{50} , inhalation, rat: > 5.02 mg/l/4 h (method OECD 403) * Skin corrosion/irritation Slightly irritating to skin (method OECD 404). * Slightly irritating to eyes (method OECD 405). * Serious eye damage/irritation Not a skin sensitizer (method OECD 429). * Respiratory or skin sensitisation ... Sodium nitrate Toxicokinetics, metabolism and Sodium in ionic form is a normal body constituent and regulated distribution between narrow ranges. These ranges will not be exceeded, except locally in unusual situations such as accidents. Nitrate ion is expected to be absorbed and widely distributed in the body. Acute toxicity The substance is not considered as harmful by single exposure. * Skin corrosion/irritation Not irritating to skin (measured on a similar product; method OECD 404). * Serious eye damage/irritation Irritating to eyes (method OECD 405). Did not cause sensitisation (method OECD 429). * Respiratory or skin sensitisation ... Lignosulfonic acid, sodium salt, sulfomethylated The substance is not considered as harmful by single exposure. * Acute toxicity Serious eye damage/irritation Causes serious eye irritation. 11.2. Information on other hazards No more relevant information is available.

♣ SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity	The product is expected to be toxic to plants. It may be harmful to
	aquatic organisms.

12.2. **Persistence and degradability** **Clomazone** is moderately persistent in the environment.



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Primary degradation half-lives vary with circumstances, from a few weeks to a few months in aerobic soil and water. Degradation occurs microbiologically.

The product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

12.3. **Bioaccumulative potential** See section 9 for octanol-water partition coefficient.

Clomazone has a low potential to bioaccumulate. The measured bioaccumulation factor of clomazone is 27 - 40. It is rapidly excreted.

12.5. Results of PBT and vPvB assessment

None of the ingredients meets the criteria for being PBT or vPvB.

12.6. Endocrine disrupting properties

None of the ingredients is known to have endocrine disrupting

properties.

12.7. Other adverse effects

Other relevant hazardous effects in the environment are not known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

Disposal of waste and packagings must always be in accordance with all applicable local regulations.

Disposal of product

According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging

It is recommended to consider possible ways of disposal in the following order:

- 1. Reuse or recycling should first be considered. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
- 2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
- 3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
- 4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied



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completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

♣ SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

14.1. **UN number** 3082

14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (clomazone)

14.3. Transport hazard class(es)

Ш 14.4. **Packing group**

14.5. Environmental hazards Marine pollutant

14.6. Special precautions for user Avoid any unnecessary contact with the product. Misuse can result in

damage to health. Do not discharge to the environment.

14.7. Maritime transport in bulk

according to IMO instruments ..

The product is not transported in bulk by ship.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso category (Dir. 2012/18/EU): dangerous for the environment.

All ingredients are covered by EU chemical legislation.

15.2. Chemical safety assessment

A chemical safety assessment is not required to be included for this product.

SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet

Minor corrections only

List of abbreviations AOEL

Acceptable Operator Exposure Level CAS Chemical Abstracts Service

Dir. Directive

DNEL Derived No Effect Level EC **European Community**

EFSA European Food Safety Authority **EINECS**

European INventory of Existing Commercial Chemical

Substances

GHS Globally Harmonized classification and labelling System

of chemicals, seventh revised edition 2017

International Maritime Organisation IMO

International Organisation for Standardization ISO **IUPAC** International Union of Pure and Applied Chemistry

50% Lethal Concentration LC_{50}



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	LD ₅₀ LOAEL n.o.s. OECD PBT PNEC Reg. STOT vPvB WHO	50% Lethal Dose Lowest Observed Adverse Effect Level Not otherwise specified Organisation for Economic Cooperation and Development Persistent, Bioaccumulative, Toxic Predicted No Effect Concentration Registration, or Regulation Specific Target Organ Toxicity very Persistent, very Bioaccumulative World Health Organisation
References		agredients are available from published literature and can be eral places.
Method for classification	Calculatio	on method
Used hazard statements	H272 H302 H319 H332 H400 H410 H411 EUH401	May intensify fire; oxidiser. Harmful if swallowed. Causes serious eye irritation. Harmful if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. To avoid risks to human health and the environment, comply with the instructions of use.
Advice on training	This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.	

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Agricultural Solutions A/S / GHB