

# SAFETY DATA SHEET

## COMMAND® 48.3 EC



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### SECTION 1. IDENTIFICATION

Product name : COMMAND® 48.3 EC

Other means of identification : Clomazone 480 g/L EC

#### Manufacturer or supplier's details

Company : FMC CORPORATION

Address : 2929 WALNUT STREET  
PHILADELPHIA, PA 19104 USA  
(215) 299-6000 (GENERAL INFORMATION)

Emergency telephone : +506-40003869  
911

Medical Emergency Number : Costa Rica - National Center of Poisoning - (506) 2223-1028;  
800-INTOXICA  
Dominican Republic: DOMINICAN REPUBLIC - Center for  
Drug Information and Poisoning - (809) 562-6601 Ext. 1801  
El Salvador - Rosales National Hospital - (503) 2231-9262  
Guatemala - Center of Toxicological Information and Assis-  
tance - (502) 2251-3560 / 2232-0735  
Honduras - Hospital School - (504) 232-6105  
Nicaragua - National Center of Toxicology - (505) 2289-4700  
ext. 1294 cel. 8755-0983  
Panama Center of Research and Information on Medications  
and Toxicology (507) 523-4948

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

Recommended use : Herbicide

Restrictions on use : Use as recommended by the label.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 5

Serious eye damage/eye irri-  
tation : Category 2B

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Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system, Central nervous system)
Aspiration hazard	:	Category 1
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 1

### GHS label elements

Hazard pictograms	:	   
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Signal Word	:	DANGER
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Hazard Statements	:	H226 Flammable liquid and vapor. H302 + H332 Harmful if swallowed or if inhaled. H304 May be fatal if swallowed and enters airways. H313 May be harmful in contact with skin. H320 Causes eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H410 Very toxic to aquatic life with long lasting effects.
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Precautionary Statements	:	<b>Prevention:</b> P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing mist or vapors. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  <b>Response:</b> P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER/ doctor if you feel unwell.  
P331 Do NOT induce vomiting.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391 Collect spillage.

### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards which do not result in classification

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	64742-95-6	>= 30 -< 50
clomazone (ISO)	81777-89-1	>= 30 -< 50
naphthalene	91-20-3	>= 0,1 -< 0,25

## SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : Wash off with soap and water.

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- If symptoms persist, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.  
May be fatal if swallowed and enters airways.  
May be harmful in contact with skin.  
Causes eye irritation.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
Swallowing or inhaling may result in sudden shortness of breath, coughing, nausea and or abdominal pain.
- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
- Notes to physician : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.
- Unsuitable extinguishing media : Do not spread spilled material with high-pressure water streams.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.  
Carbon oxides
- Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.  
Use a water spray to cool fully closed containers.  
Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use a water spray to cool fully closed containers.
- Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.  
If it can be safely done, stop the leak.  
Do not touch or walk through the spilled material.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Never return spills in original containers for re-use.  
Collect as much of the spill as possible with a suitable absorbent material.  
Pick up and transfer to properly labeled containers.

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**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).  
Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking.  
Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
naphthalene	91-20-3	TWA	10 ppm	CR OEL
		Further information: Confirmed animal carcinogen, Risk of cutaneous absorption		
		TWA	10 ppm	ACGIH

#### Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
- Hand protection  
Material : Protective gloves
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles
- Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Protective measures : Plan first aid action before beginning work with this product.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
Provide adequate ventilation.  
Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.  
Do not inhale aerosol.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Color : light yellow
- Odor : hydrocarbon-like
- Odor Threshold : No data available
- pH : No data available

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Melting point/ range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	40 °C Method: closed cup
Evaporation rate	:	No data available
Flammability (liquids)	:	Sustains combustion
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	1.02 g/cm <sup>3</sup>
Solubility(ies) Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Vapors may form explosive mixture with air. No decomposition if stored and applied as directed.
Conditions to avoid	: Heat, flames and sparks. Avoid extreme temperatures. Avoid formation of aerosol.
Incompatible materials	: Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	: No hazardous decomposition products are known.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed or if inhaled.  
May be harmful in contact with skin.

#### Product:

Acute oral toxicity	: LD50 (Rat): 1.406 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 4,47 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit): > 2.000 mg/kg Assessment: The component/mixture is minimally toxic after single contact with skin.

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Acute oral toxicity	: LD50 (Rat, female): 3.492 mg/kg Method: OECD Test Guideline 401  LD50 (Rat, male): 6.984 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat, male and female): > 6,193 mg/l Exposure time: 4 h Test atmosphere: vapor Assessment: The substance or mixture has no acute inhalation toxicity Remarks: no mortality
Acute dermal toxicity	: LD50 (Rabbit, male and female): > 3.160 mg/kg Assessment: The component/mixture is minimally toxic after



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single contact with skin.

### **clomazone (ISO):**

- Acute oral toxicity : LD50 (Rat, female): 768 mg/kg  
Method: OECD Test Guideline 425
- LD50 (Rat, female): 300 - 2.000 mg/kg  
Method: OECD Test Guideline 423  
Target Organs: Liver  
Assessment: The component/mixture is moderately toxic after single ingestion.
- LD50 (Rat, female): 1.564 mg/kg  
Symptoms: ataxia
- Acute inhalation toxicity : LC50 (Rat): > 5,02 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403
- LC50 (Rat, female): 4,23 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: EPA OPP 81 - 3  
Symptoms: Breathing difficulties
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg  
Method: US EPA Test Guideline OPP 81-2  
Assessment: The component/mixture is minimally toxic after single contact with skin.  
Remarks: no mortality

### **naphthalene:**

- Acute oral toxicity : LD50 (Mouse, female): 710 mg/kg  
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC0 (Rat, male and female): > 0,4 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat, male and female): > 16.000 mg/kg  
Method: OECD Test Guideline 402

### **Skin corrosion/irritation**

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

### **Product:**

- Species : Rabbit  
Result : No skin irritation

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Remarks : May cause skin irritation in susceptible persons.

### **Components:**

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Mild skin irritation

#### **clomazone (ISO):**

Species	: Rabbit
Assessment	: Not classified as irritant
Method	: OECD Test Guideline 404
Result	: slight or no skin irritation.

#### **naphthalene:**

Species	: Rabbit
Result	: No skin irritation

#### **Serious eye damage/eye irritation**

Causes eye irritation.

### **Product:**

Species	: Rabbit
Result	: Mild eye irritation

Remarks : Vapors may cause irritation to the eyes, respiratory system and the skin.

### **Components:**

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Species	: Rabbit
Result	: No eye irritation

#### **clomazone (ISO):**

Species	: Rabbit
Result	: Slight or no eye irritation
Assessment	: Not classified as irritant
Method	: OECD Test Guideline 405
GLP	: yes

#### **naphthalene:**

Species	: Rabbit
Result	: No eye irritation

#### **Respiratory or skin sensitization**

#### **Skin sensitization**

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

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**Respiratory sensitization**

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

**Product:**

Result : Not a skin sensitizer.

**Components:****Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Test Type	: Maximization Test
Routes of exposure	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: Not a skin sensitizer.

**clomazone (ISO):**

Species	: Guinea pig
Assessment	: Not a skin sensitizer.
Method	: US EPA Test Guideline OPP 81-6
Result	: Not a skin sensitizer.

**naphthalene:**

Test Type	: Maximization Test
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: Does not cause skin sensitization.

**Germ cell mutagenicity**

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

**Components:****Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Genotoxicity in vitro	: Test Type: in vitro DNA damage and/or repair study Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative
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	: Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Result: negative
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Genotoxicity in vivo	: Test Type: Bone marrow chromosome aberration. Species: Rat (male and female) Application Route: Inhalation Result: negative
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**clomazone (ISO):**

Genotoxicity in vitro	: Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471
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Result: negative

GLP: yes

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay  
Species: Rat  
Method: OECD Test Guideline 473  
Result: negative

### **naphthalene:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

### **Carcinogenicity**

Suspected of causing cancer.

#### **Product:**

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

#### **Components:**

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

#### **clomazone (ISO):**

Species : Rat, male and female  
Application Route : Oral  
Exposure time : 2 Years  
Result : negative

Species : Mouse  
Method : OECD Test Guideline 453  
Result : negative

#### **naphthalene:**

Species : Rat  
Application Route : Inhalation  
Exposure time : 2 Years  
Result : positive

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

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**Reproductive toxicity**

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

**Components:****Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Effects on fertility : Test Type: Three-generation study  
Species: Rat  
Application Route: inhalation (vapor)  
Fertility: NOAEC Mating/Fertility: 7,5 mg/l  
Result: negative  
Remarks: Based on data from similar materials

Effects on fetal development : Species: Mouse  
Application Route: inhalation (vapor)  
General Toxicity Maternal: LOAEC: 500 part per million  
Symptoms: Maternal effects.

**clomazone (ISO):**

Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
Symptoms: Maternal effects.  
Result: negative

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral  
Symptoms: Maternal effects.  
Result: negative

**naphthalene:**

Effects on fertility : Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Inhalation  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
Method: OECD Test Guideline 414  
Result: Embryotoxic effects and adverse effects on the off-spring were detected only at high maternally toxic doses

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### STOT-single exposure

May cause respiratory irritation.  
May cause drowsiness or dizziness.

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Assessment : May cause respiratory irritation.  
May cause drowsiness or dizziness.

### STOT-repeated exposure

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

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Species : Rat, male and female  
NOAEC : 0,8 - 0,9 mg/l  
Application Route : Inhalation  
Test atmosphere : vapor  
Remarks : Based on data from similar materials

Species : Rat, male  
NOAEL : 600 mg/kg  
Application Route : Oral  
Remarks : Based on data from similar materials

#### **clomazone (ISO):**

Species : Rat, male and female  
NOEL : 1000 ppm  
Application Route : Oral  
Exposure time : 90 days  
Symptoms : increased liver weight

Species : Rat  
LOAEL : 400 mg/kg  
Exposure time : 90 d  
Method : OECD Test Guideline 408  
Symptoms : Liver effects

### Aspiration toxicity

May be fatal if swallowed and enters airways.

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### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

May be fatal if swallowed and enters airways.

#### **clomazone (ISO):**

The substance does not have properties associated with aspiration hazard potential.

### **Further information**

#### Product:

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.  
Concentrations substantially above the TLV value may cause narcotic effects.  
Solvents may degrease the skin.

### Components:

#### **clomazone (ISO):**

Remarks : When fed to animals, clomazone caused decreased activity, tearing eyes, bleeding from the nose and incoordination.

## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Toxicity to fish : NOEC (Oncorhynchus mykiss (rainbow trout)): 4,5 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

LL50 (Pimephales promelas (fathead minnow)): 8,2 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 4,5 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (microalgae)): 3,1 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

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Toxicity to fish (Chronic toxicity) : NOELR (Pimephales promelas (fathead minnow)): 2,6 mg/l  
Exposure time: 14 d  
Method: OECD Test Guideline 204  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): 2,6 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50 (Tetrahymena pyriformis): 15,41 mg/l  
Exposure time: 40 h  
Test Type: Growth inhibition  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

### Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

### clomazone (ISO):

Toxicity to fish : LC50 (Menidia beryllina (Silverside)): 6,3 mg/l  
Exposure time: 96 h  
  
LC50 (Oncorhynchus mykiss (rainbow trout)): > 45 mg/l  
Exposure time: 96 h  
  
LC50 (Lepomis macrochirus (Bluegill sunfish)): 34 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 40,8 mg/l  
Exposure time: 48 h  
  
EC50 (Daphnia): 5,2 mg/l  
Exposure time: 48 h  
  
EC50 (Daphnia magna (Water flea)): 12,7 mg/l  
Exposure time: 48 h  
Test Type: static test  
  
EC50 (Mysidopsis bahia (opossum shrimp)): 9,8 mg/l  
Exposure time: 48 h  
  
LC50 (Americamysis bahia (mysid shrimp)): 0,57 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to algae/aquatic plants : EbC50 (Selenastrum capricornutum (green algae)): 2 mg/l  
Exposure time: 72 h  
  
ErC50 (Selenastrum capricornutum (green algae)): 4,1 mg/l  
Exposure time: 72 h



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ErC50 (Navicula pelliculosa (Freshwater diatom)): 0,136 mg/l  
Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 13,9 mg/l  
Exposure time: 7 d

NOEC (Navicula pelliculosa (Freshwater diatom)): 0,05 mg/l  
End point: Growth rate  
Exposure time: 120 h

NOEC (algae): 0,05 mg/l  
Exposure time: 96 h

EC50 (Lemna gibba (duckweed)): 13,9 mg/l  
Exposure time: 7 d

EC50 (algae): 0,136 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 2,3 mg/l  
Exposure time: 21 d  
Test Type: flow-through test

NOEC (Oncorhynchus mykiss (rainbow trout)): 2,29 mg/l  
Exposure time: 57 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2,2 mg/l  
Exposure time: 21 d

NOEC (Americamysis bahia (mysid shrimp)): 0,032 mg/l  
Exposure time: 28 d  
Test Type: flow-through test

NOEC (Daphnia magna (Water flea)): 1,25 mg/l  
Exposure time: 21 d  
Test Type: static test

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 156 mg/kg  
Exposure time: 14 d

Toxicity to terrestrial organisms : LD50 (Anas platyrhynchos (Mallard duck)): > 2.510 mg/kg

LC50 (Anas platyrhynchos (Mallard duck)): > 5620 ppm  
Remarks: Dietary

LD50 (Coturnix japonica (Japanese quail)): > 2000

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NOEC (Colinus virginianus): 94 mg/kg  
End point: Reproduction Test

LC50 (Apis mellifera (bees)): > 85.29

LC50 (Apis mellifera (bees)): > 100  
Remarks: Contact

### naphthalene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,16 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 0,4 - 0,5 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus kisutch (coho salmon)): 0,37 mg/l  
Exposure time: 40 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia pulex (Water flea)): 0,59 mg/l  
Exposure time: 125 d

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : IC50 (Bacteria): 29 mg/l  
Exposure time: 24 h

### Persistence and degradability

#### Components:

#### **Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Biodegradability : Concentration: 49,2 mg/l  
Result: Inherently biodegradable.  
Biodegradation: 77,05 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

#### **clomazone (ISO):**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Substance/product is moderately persistent in the environment.  
Primary degradation half-lives vary with circumstances, from a

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few weeks to a few months in aerobic soil and water.

### naphthalene:

Biodegradability : Result: Inherently biodegradable.  
Biodegradation: 67 %  
Exposure time: 12 d

### Bioaccumulative potential

#### Components:

#### clomazone (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 27 - 40  
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 2,61 - 2,69 (20 - 21 °C)  
pH: 4 - 10  
Method: Regulation (EC) No. 440/2008, Annex, A.8

### naphthalene:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 168

Partition coefficient: n-octanol/water : log Pow: 3,7

### Mobility in soil

#### Components:

#### clomazone (ISO):

Distribution among environmental compartments : Koc: 300 ml/g, log Koc: 2,47  
Remarks: Moderately mobile in soils

Stability in soil :

### Other adverse effects

#### Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

#### Components:

#### clomazone (ISO):

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 1993  
Proper shipping name : FLAMMABLE LIQUID, N.O.S. (Aromatic hydrocarbons, C10, Clomazone)
- Class : 3  
Packing group : III  
Labels : 3  
Environmentally hazardous : yes

##### IATA-DGR

- UN/ID No. : UN 1993  
Proper shipping name : Flammable liquid, n.o.s.  
FLAMMABLE LIQUID, N.O.S. (Aromatic hydrocarbons, C10, Clomazone)
- Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

##### IMDG-Code

- UN number : UN 1993  
Proper shipping name : FLAMMABLE LIQUID, N.O.S. (Aromatic hydrocarbons, C10, Clomazone)
- Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E  
Marine pollutant : yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

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

This safety data sheet has been prepared in accordance with Costa Rican legislation RTCR 481: 2015 and RTCR 478:2015.

Law on Narcotics, Psychotropic Substances, Drugs of : Solvent naphtha (petroleum), heavy  
Unauthorized Use, Money-Laundering and Related arom.; Kerosine — unspecified  
Activities.

### The ingredients of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.  clomazone (ISO)
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

## SECTION 16. OTHER INFORMATION

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### Further information

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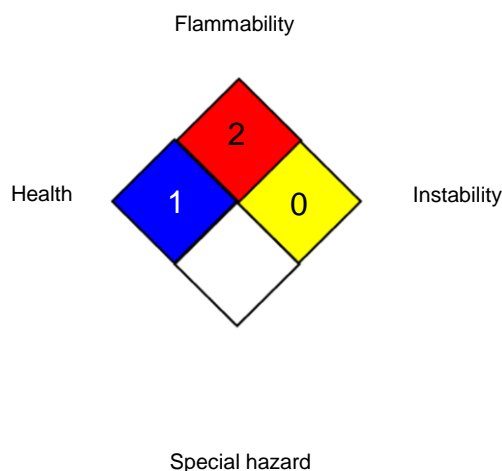
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### NFPA:



### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		2
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
CR OEL : Costa Rica. Maximum allowable occupational exposure limits in the workplace.

ACGIH / TWA : 8-hour, time-weighted average  
CR OEL / TWA : Time weighted average 8-hr value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Trans-

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portation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

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