

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



COMMAND® 4 EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	04/22/2024	50000360	Date of first issue: 04/22/2024

SECTION 1. IDENTIFICATION

Product identifier

Product name COMMAND® 4 EC

Other means of identification

Product code 50000360

Recommended use of the chemical and restrictions on use

Recommended use Herbicide

Restrictions on use Use as recommended by the label.

Details of the supplier of the safety data sheet

Manufacturer

FMC Corporation
2929 Walnut Street
PHILADELPHIA PA 19104 USA
(215) 299-6000
SDS-Info@fmc.com

Emergency telephone

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 emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	: Category 3
Acute toxicity (Oral)	: Category 4
Acute toxicity (Inhalation)	: Category 4
Eye irritation	: Category 2B
Carcinogenicity	: Category 2
Specific target organ toxicity - single exposure	: Category 3 (Respiratory system, Central nervous system)
Aspiration hazard	: Category 1

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GHS label elements

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: H226 Flammable liquid and vapor.
H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H320 Causes eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

Precautionary Statements

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

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P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

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	81777-89-1	>= 30 - < 50
naphthalene	91-20-3	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	: Move out of dangerous area. Show this 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. 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.

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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. 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.

Further information : 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.

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.

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- 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.

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), light arom.; Low boiling point	64742-95-6	TWA	400 ppm 1,600 mg/m ³	OSHA P0

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naphtha -unspecified				
naphthalene	91-20-3	TWA	10 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	NIOSH REL
		ST	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z-1
		TWA	10 ppm 50 mg/m3	OSHA P0
		STEL	15 ppm 75 mg/m3	OSHA P0

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	: 104 °F / 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	: 8.57 lb/gal
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.

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

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Acute dermal toxicity : LD50 (Rabbit, male and female): > 3,160 mg/kg
Assessment: The component/mixture is minimally toxic after single contact with skin.

Clomazone:

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.

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Product:

Species : Rabbit
Result : No skin irritation

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:

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:

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

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Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

Not classified due to lack of data.

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:

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

Not classified due to lack of data.

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
	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	: Test Type: Bone marrow chromosome aberration. Species: Rat (male and female) Application Route: Inhalation

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Result: negative

Clomazone:

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

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

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

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naphthalene:

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

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

IARC Group 2B: Possibly carcinogenic to humans
naphthalene 91-20-3

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP Reasonably anticipated to be a human carcinogen
naphthalene 91-20-3

Reproductive toxicity

Not classified due to lack of data.

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:

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

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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

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

Not classified due to lack of data.

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:

Species : Rat, male and female

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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.

Components:

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

May be fatal if swallowed and enters airways.

Clomazone:

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.
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Components:

Clomazone:

Remarks	:	When fed to animals, clomazone caused decreased activity, tearing eyes, bleeding from the nose and incoordination.
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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
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LL50 (Pimephales promelas (fathead minnow)): 8.2 mg/l

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- 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
- 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:

- 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

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		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
		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
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

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Test Type: static test

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

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

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

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

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Clomazone:

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

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

Partition coefficient: n-octanol/water : log Pow: 2.61 - 2.69 (68 - 70 °F / 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:

Distribution among environmental compartments : Koc: 300 ml/g, log Koc: 2.47
Remarks: Moderately mobile in soils

Stability in soil :

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufac-

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tured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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:

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.

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.
(Solvent naphtha (petroleum), 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.
(Solvent naphtha (petroleum), Clomazone)

Class : 3
Packing group : III
Labels : Flammable Liquids
Packing instruction (cargo) : 366

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aircraft)

Packing instruction (passenger aircraft) : 355

IMDG-Code

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Solvent naphtha (petroleum), Naphthalene)

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.

Domestic regulation

49 CFR Road

UN/ID/NA number : UN 1993
Proper shipping name : Flammable liquids, n.o.s.
(Solvent naphtha (petroleum), Clomazone)

Class : 3
Packing group : III
Labels : FLAMMABLE LIQUID
ERG Code : 128
Marine pollutant : yes (Clomazone, Naphthalene)

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

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

naphthalene	91-20-3	>= 0.1 - < 1 %
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Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

naphthalene	91-20-3	>= 0.1 - < 1 %
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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

naphthalene	91-20-3	>= 0.1 - < 1 %
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This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Solvent naphtha (petroleum), light arom.; Low boiling point	64742-95-6
naphtha -unspecified	
Clomazone	81777-89-1
naphthalene	91-20-3

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including naphthalene, cumene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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.

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Clomazone

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

TSCA list

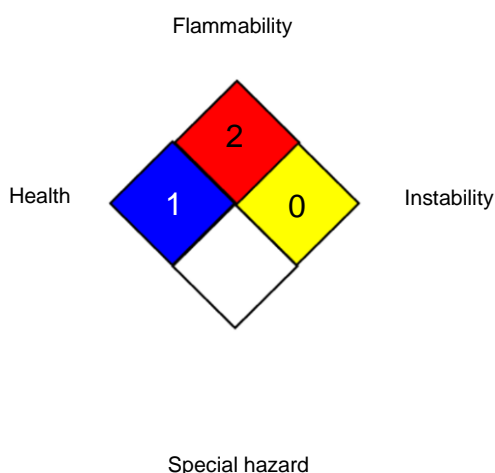
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



0 No health threat, 1 Slightly Hazardous, 2 Hazardous, 3 Extreme danger, 4 Deadly

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)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits

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OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

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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. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. 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.

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End of Material Safety Data Sheet