according to the OSHA Hazard Communication Standard



## **MUSTANG MAX® EW**

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#### **SECTION 1. IDENTIFICATION**

Product identifier

Product name MUSTANG MAX® EW

Other means of identification

Product code 50000407

Recommended use of the chemical and restrictions on use

Recommended use Can be used as insecticide only.

**Restrictions on use**Use as recommended by the label.

Manufacturer or supplier's details

<u>Manufacturer</u> FMC Corporation

2929 WALNUT ST

PHILADELPHIA PA 19104

USA

+1 (215) 299-6000 SDS-Info@fmc.com

<u>Supplier Address</u> FMC Corporation

2929 Walnut Street Philadelphia PA 19104

**USA** 

**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)

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

according to the OSHA Hazard Communication Standard



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Eye irritation : Category 2A

Skin sensitization : Sub-category 1B

Carcinogenicity : Category 2

Specific target organ toxicity

- single exposure

Category 2 (Nervous system)

Specific target organ toxicity

- single exposure

Category 3 (Respiratory system)

Specific target organ toxicity

- repeated exposure

Category 2

Aspiration hazard : Category 1

**GHS** label elements

Hazard pictograms





Signal Word : DANGER

Hazard Statements : H302 + H332 Harmful if swallowed or if inhaled.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H351 Suspected of causing cancer.

H371 May cause damage to organs (Nervous system). H373 May cause damage to organs through prolonged or re-

peated exposure.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P260 Do not breathe 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.

P272 Contaminated work clothing must not be allowed out of

the workplace.

P280 Wear protective gloves/ eye protection/ face protection. P280 Wear protective gloves, protective clothing, eye protection

and face protection.

Response:

according to the OSHA Hazard Communication Standard



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P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 IF ON SKIN: Wash with plenty of 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.

P308 + P311 IF exposed or concerned: Call a POISON

CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P331 Do NOT induce vomiting.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

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

P362 + P364 Take off contaminated clothing and wash it before reuse.

#### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### Disposal:

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

#### Other hazards

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### Components

| Chemical name                      | CAS-No.    | Concentration (% w/w)        |
|------------------------------------|------------|------------------------------|
| Zeta cypermethrin                  | 52315-07-8 | Trade secret 9.2             |
| glycerol                           | 56-81-5    | Trade secret (>= 10 - <= 30) |
| Solvent naphtha (petroleum), heavy | 64742-94-5 | Trade secret (>= 10 - <= 30) |
| arom.; Kerosine — unspecified      |            |                              |

#### **SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.

Show this material safety data sheet to the doctor in attend-

ance.

Symptoms of poisoning may appear several hours later.

Do not leave the victim unattended.

according to the OSHA Hazard Communication Standard



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If inhaled : Move to fresh air.

If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

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 ambu-

lance.

In case of skin contact : If skin irritation persists, call a physician.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.

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.

Causes skin irritation.

May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs.

May cause damage to organs through prolonged or repeated

exposure.

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

Notes to physician : Treat symptomatically.

## **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

according to the OSHA Hazard Communication Standard



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Unsuitable extinguishing

media

: High volume water jet

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 prod: :

ucts

Carbon oxides

Fire may produce irritating, corrosive and/or toxic gases.

Nitrogen oxides (NOx) Chlorinated compounds Hydrogen chloride Hydrogen cyanide

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Special protective equipment

for fire-fighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protec: :

tive equipment and emer-

gency procedures

Use personal protective equipment.

Ensure adequate ventilation.

Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

For disposal considerations see section 13.

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

Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

## **SECTION 7. HANDLING AND STORAGE**

Advice on protection against :

fire and explosion

Normal measures for preventive fire protection.

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapors/dust.

Avoid exposure - obtain special instructions before use.

according to the OSHA Hazard Communication Standard



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Avoid contact with skin and eyes.

For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national

regulations.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being

used.

Conditions for safe storage : 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.

Materials to avoid : Do not store near acids.

Further information on stor-

age 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<br>(Form of<br>exposure)    | Control parameters / Permissible concentration | Basis    |
|--|------------|--|--|----------|
| glycerol   | 56-81-5    | TWA (mist, respirable fraction)        | 5 mg/m3  | OSHA Z-1 |
|  |            | TWA (mist, total dust)                 | 15 mg/m3                                       | OSHA Z-1 |
|  |            | TWA (Mist - total dust)                | 10 mg/m3                                       | OSHA P0  |
|  |            | TWA (Mist -<br>respirable<br>fraction) | 5 mg/m3  | OSHA P0  |
| Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified | 64742-94-5 | TWA                                    | 200 mg/m3<br>(total hydrocarbon<br>vapor)      | ACGIH    |

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally re-

quired.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

according to the OSHA Hazard Communication Standard



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butyl rubber or nitrile rubber.

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.

Always have on hand a first-aid kit, together with proper in-

structions.

Ensure that eye flushing systems and safety showers are

located close to the working place. Wear suitable protective equipment.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instruc-

tions for use.

Hygiene measures : When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : liquid

Color : white

Odor : aromatic

Odor Threshold : No data available

pH : 4.42 (77 °F / 25 °C)

Melting point/freezing point : No data available

Initial boiling point and boiling :

range

No data available

Flash point :  $> 230 \, ^{\circ}\text{F} / > 110 \, ^{\circ}\text{C}$ 

according to the OSHA Hazard Communication Standard



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Evaporation rate : 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 : 8.89 lb/gal

Bulk density : No data available

Solubility(ies)

Water solubility : emulsifiable

Solubility in other solvents : No data available

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 : No data available

Oxidizing properties : No data available

#### **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 reac-

tions

No decomposition if stored and applied as directed.

Conditions to avoid : Avoid extreme temperatures.

Avoid formation of aerosol.

according to the OSHA Hazard Communication Standard



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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): 403 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.6 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Components:

Zeta cypermethrin:

Acute oral toxicity : LD50 (Rat, male and female): 69.2 - 142.3 mg/kg

Method: FIFRA 81.01

GLP: yes

Acute inhalation toxicity : LC50 (Rat, female): 1.6 - 3.4 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: EPA OPP 81 - 3

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

glycerol:

Acute oral toxicity : LD50 (Rat, female): 11,500 mg/kg

Acute inhalation toxicity : LC0 (Rat, male): 11 mg/l

Exposure time: 1 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Guinea pig, male and female): 56,750 mg/kg

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Method: OECD Test Guideline 401

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l

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Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Causes skin irritation.

**Product:** 

Species : Rabbit Result : Skin irritation

Remarks : May cause skin irritation and/or dermatitis.

**Components:** 

Zeta cypermethrin:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

glycerol:

Species : Rabbit

Result : No skin irritation

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rabbit

Assessment : Repeated exposure may cause skin dryness or cracking.

Result : No skin irritation

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

**Product:** 

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

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

and the skin.

according to the OSHA Hazard Communication Standard



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#### Components:

Zeta cypermethrin:

Rabbit Species Result slight irritation

Assessment Not classified as irritant

glycerol:

**Species** Rabbit

Result No eye irritation

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

**Species** Rabbit

Assessment No eye irritation

Remarks Minimal effects that do not meet the threshold for classifica-

Based on data from similar materials

#### Respiratory or skin sensitization

#### Skin sensitization

May cause an allergic skin reaction.

#### Respiratory sensitization

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

**Product:** 

Assessment Not a skin sensitizer.

Result Probability or evidence of low to moderate skin sensitization

rate in humans

Remarks : Causes sensitization.

**Components:** 

Zeta cypermethrin:

Test Type Local lymph node assay (LLNA)

Routes of exposure Dermal **Species** mice

Assessment May cause sensitization by skin contact.

Method **OECD Test Guideline 429** 

Result May cause sensitization by skin contact.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Test Type **Maximization Test Species** Guinea pig

Result

Not a skin sensitizer. Remarks Based on data from similar materials

according to the OSHA Hazard Communication Standard



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#### Germ cell mutagenicity

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

#### **Components:**

Zeta cypermethrin:

Genotoxicity in vitro : Test Type: Ames test

Result: negative

Test Type: unscheduled DNA synthesis assay

Test system: rat hepatocytes

Result: negative

Test Type: Chromosome aberration test in vitro

Metabolic activation: with and without metabolic activation

Result: negative

GLP: yes

Genotoxicity in vivo : Test Type: chromosome aberration assay

Species: Chinese hamster Cell type: Bone marrow Application Route: Oral

Result: negative

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

glycerol:

Genotoxicity in vitro : Test Type: reverse mutation assay

Result: negative

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration.

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Carcinogenicity

Suspected of causing cancer.

**Product:** 

Carcinogenicity - Assess-

ment

: Limited evidence of carcinogenicity in animal studies

according to the OSHA Hazard Communication Standard



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#### Components:

Zeta cypermethrin:

Rat Species **Application Route** Oral

Exposure time 24 month(s) NOAEL 7.5 mg/kg bw/day

Result negative

glycerol:

**Species** Rat **Application Route** Oral

Exposure time 2 years Years Result negative

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

**Species** Rat, male and female Application Route inhalation (vapor) Exposure time 12 month(s) NOAEC 1.8 mg/l

negative Result

Remarks Based on data from similar materials

Carcinogenicity - Assess-

ment

Not classifiable as a human carcinogen.

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

**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** No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

#### Reproductive toxicity

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

#### Components:

Zeta cypermethrin:

Effects on fertility Test Type: Two-generation study

Species: Rat

Application Route: Oral

General Toxicity F1: NOAEL: 22 mg/kg bw/day

Method: OECD Test Guideline 416

Result: negative

Effects on fetal development Test Type: Embryo-fetal development

Species: Rat

**Application Route: Oral** 

according to the OSHA Hazard Communication Standard



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General Toxicity Maternal: NOAEL: 12.5 mg/kg bw/day Developmental Toxicity: NOAEL: 35 mg/kg bw/day

Method: OECD Test Guideline 426

Result: negative

GLP: yes

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

glycerol:

Effects on fertility : Test Type: Two-generation study

Species: Rat

Application Route: Oral

Result: negative

Effects on fetal development : Test Type: Two-generation study

Species: Rat

Application Route: Oral

Result: negative

#### STOT-single exposure

May cause respiratory irritation.

May cause damage to organs (Nervous system).

**Product:** 

Assessment : May cause respiratory irritation.

**Components:** 

Zeta cypermethrin:

Target Organs : Nervous system

Assessment : The substance or mixture is classified as specific target organ

toxicant, single exposure, category 2.

Assessment : May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

**Product:** 

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

**Components:** 

Zeta cypermethrin:

Target Organs : Nervous system

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

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#### Repeated dose toxicity

# **Components:**

# Zeta cypermethrin:

Species : Dog
NOAEL : 5 mg/kg
LOAEL : 15 mg/kg
Application Route : Oral
Exposure time : 1 yr

Dose : 1, 5, 15 mg/kg/d

Symptoms : Gastrointestinal disturbance, Neurological disorders

Species : Dog

NOAEL : 6 mg/kg bw/day LOAEL : 18 mg/kg bw/day

Application Route : Oral Exposure time : 90 d

Target Organs : Nervous system

Species : Rat

NOAEL : 16.7 mg/kg bw/day LOAEL : 33.7 mg/kg bw/day

Application Route : Oral Exposure time : 90 d

Target Organs : Nervous system

Species : Dog
NOAEL : 6 mg/kg
LOAEL : 18 mg/kg
Application Route : Oral
Exposure time : 1 yr

Dose : 3, 6, 18, 33 mg/kg/d Method : EPA OPP 83-1

Symptoms : Tremors

Species : Rat
NOAEL : 4.5 mg/kg
Application Route : Oral
Exposure time : 2 yr

Dose : 0.6, 4.5, 30, 45 mg/kg/d

Target Organs : Liver

glycerol:

Species : Rat
LOAEL : 1 mg/kg
Application Route : Inhalation
Exposure time : 14 d

Dose : 0, 1, 1.93, 3.91 mg/L

Symptoms : respiratory tract irritation, Fatality

Species : Rat

according to the OSHA Hazard Communication Standard



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NOAEL : 0.165 mg/l
LOAEL : 0.662 mg/l
Application Route : Inhalation
Exposure time : 13 w

Dose : 0, 0.033, 0.165, 0.662 mg/L Symptoms : respiratory tract irritation

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rat, male and female

NOAEC : 0.9 - 1.8 mg/l
Application Route : inhalation (vapor)
Exposure time : 12 Months

## **Aspiration toxicity**

May be fatal if swallowed and enters airways.

#### **Product:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

#### **Components:**

#### Zeta cypermethrin:

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

## Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

May be fatal if swallowed and enters airways.

# **Experience with human exposure**

#### **Components:**

#### Zeta cypermethrin:

General Information : Symptoms: May cause paraesthesia

# Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Skin contact : Symptoms: Repeated exposure may cause skin dryness or

cracking.

#### **Further information**

**Product:** 

Remarks : Solvents may degrease the skin.

#### Components:

#### Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks : Vapour concentrations above recommended exposure levels

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are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

#### **SECTION 12. ECOLOGICAL INFORMATION**

## **Ecotoxicity**

#### **Components:**

Zeta cypermethrin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.69 μg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.141 μg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (algae): > 1 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Fish): 0.015 μg/l

Exposure time: 21 d

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Crustaceans): 0.01 µg/l

Exposure time: 21 d

Toxicity to soil dwelling or-

ganisms

LC50 (worms): > 100 mg/kg

Exposure time: 14 d

Toxicity to terrestrial organ-

isms

LD50 (Colinus virginianus (Bobwhite quail)): > 2,025 mg/kg

NOEC (Colinus virginianus (Bobwhite quail)): 150 mg/kg

End point: Reproduction Test

LD50 (Apis mellifera (bees)): 0.059 µg/bee

LC50 (Apis mellifera (bees)): 0.033 µg/bee

**Ecotoxicology Assessment** 

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

glycerol:

according to the OSHA Hazard Communication Standard



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LC50 (Fish): 885 mg/l Toxicity to fish

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1,955 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Scenedesmus capricornutum (fresh water algae)):

2,900 mg/l

Exposure time: 192 h

EC10 (Pseudomonas putida): 10,000 mg/l Toxicity to microorganisms

Exposure time: 16 h

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Toxicity to fish LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 1.4 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3

mg/l

Exposure time: 24 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

EL50 (Daphnia magna (Water flea)): 0.89 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms LL50 (Tetrahymena pyriformis): 677.9 mg/l

Exposure time: 72 h

Test Type: Growth inhibition

Persistence and degradability

Components:

Zeta cypermethrin:

Biodegradability Result: Not readily biodegradable.

glycerol:

Biodegradability Result: Readily biodegradable.

> Biodegradation: 94 % Exposure time: 24 h

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Biodegradability Result: Readily biodegradable.

Biodegradation: 58.6 %

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Exposure time: 28 d

Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

**Bioaccumulative potential** 

**Components:** 

Zeta cypermethrin:

Bioaccumulation : Remarks: Accumulation in aquatic organisms is expected.

Partition coefficient: n-

octanol/water

log Pow: 5 - 6 (75 °F / 24 °C)

glycerol:

Partition coefficient: n- : log Pow: -1.75 (77 °F / 25 °C)

octanol/water pH: 7.4

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Bioaccumulation : Remarks: The product/substance has a potential to bioaccu-

mulate.

Partition coefficient: n-

octanol/water

log Pow: 3.72 Method: QSAR

Mobility in soil

**Components:** 

Zeta cypermethrin:

Distribution among environ-

mental compartments

Remarks: immobile

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Distribution among environ-

mental compartments

Remarks: Expected to partition to sediment and wastewater

solids. Moderately volatile.

Other adverse effects

**Product:** 

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Pro-

tection of Stratospheric Ozone - CAA Section 602 Class I

Substances

Remarks: 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).

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

according to the OSHA Hazard Communication Standard



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Very toxic to aquatic life with long lasting effects.

#### Components:

#### Zeta cypermethrin:

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

#### Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

## **Components:**

#### octamethylcyclotetrasiloxane [D4]:

20-year global warming potential: 2.66 100-year global warming potential: 0.739 500-year global warming potential: 0.211

Atmospheric lifetime: 0.027 yr Radiative efficiency: 0.12 Wm2ppb

Further information: Miscellaneous compounds

## decamethylcyclopentasiloxane:

20-year global warming potential: 1.04 100-year global warming potential: 0.289 500-year global warming potential: 0.082

Atmospheric lifetime: 0.016 yr Radiative efficiency: 0.098 Wm2ppb

Further information: Miscellaneous compounds

# dodecamethylcyclohexasiloxane:

20-year global warming potential: 0.51 100-year global warming potential: 0.142 500-year global warming potential: 0.04

Atmospheric lifetime: 0.011 yr Radiative efficiency: 0.086 Wm2ppb

Further information: Miscellaneous compounds

#### **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 chemi-

cal or used container.

Send to a licensed waste management company.

according to the OSHA Hazard Communication Standard



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Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

#### **SECTION 14. TRANSPORT INFORMATION**

#### International Regulations

**UNRTDG** 

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Zeta-Cypermethrin)

Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

**IATA-DGR** 

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(Zeta-Cypermethrin)

Class : 9 Packing group : III

Labels : Miscellaneous

Packing instruction (cargo :

aircraft)

Packing instruction (passen:

ger aircraft)

**IMDG-Code** 

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

964

964

(Zeta-Cypermethrin)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
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 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(Zeta-Cypermethrin)

Class : 9
Packing group : III
Labels : CLASS 9

according to the OSHA Hazard Communication Standard



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ERG Code : 171 Marine pollutant : yes

#### 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**

This material does not contain any components with a CERCLA 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 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### 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).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

glycerol 56-81-5 >= 10 - < 20 %

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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**

glycerol 56-81-5 Zeta cypermethrin 52315-07-8

## Pennsylvania Right To Know

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water 7732-18-5 glycerol 56-81-5 Solvent naphtha (petroleum), heavy arom.; Kerosine — un-

specified

Zeta cypermethrin 52315-07-8
Monobutyl ether of polymer of 2-methyloxirane / oxirane 9038-95-3
Polyethylene glycol polyester Not Assigned

**Maine Chemicals of High Concern** 

octamethylcyclotetrasiloxane [D4] 556-67-2

**Vermont Chemicals of High Concern** 

octamethylcyclotetrasiloxane [D4] 556-67-2

**Washington Chemicals of High Concern** 

Product does not contain any listed chemicals

California Permissible Exposure Limits for Chemical Contaminants

glycerol 56-81-5

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

TCSI : Not 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 chemical substance(s) exempt from

CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control

product.

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not 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.

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#### FIFRA information

#### **DANGER**

Causes eye irritation, Avoid contact with skin, eyes and clothing., Avoid breathing dust or spray mist., Harmful if absorbed through the skin., Harmful if swallowed, Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals., Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet., Remove and wash contaminated clothing before reuse.

#### **SECTION 16. OTHER INFORMATION**

## **Further information**

#### NFPA 704:

# Flammability Health 2 0 Instability

Special hazard

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

#### HMIS® IV:



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)

OSHA PO : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated

values)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average OSHA P0 / TWA : 8-hour time weighted average 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, Compensa-

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tion, 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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