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CVR No. DK 12 76 00 43

| | | |
|---|--------------------|------------------------|
| Product code | 6242 | Page 1 of 15 |
| Product name | Fury 100 EW | June 2020 |
| Safety data sheet according to EU Reg. 1907/2006 as amended | | Supersedes August 2019 |

SAFETY DATA SHEET

Fury 100 EW

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

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

- 1.1. **Product identifier** **Fury 100 EW**
Contains zeta-cypermethrin and 1,2-benzisothiazol-3(2H)-one
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against** Can be used as insecticide only.
- 1.3. **Details of the supplier of the safety data sheet** **FMC Agricultural Solutions A/S**
Thyborønvej 78
DK-7673 Harbøre
Denmark
SDS.Ronland@fmc.com
- 1.4. **Emergency telephone number**
Medical emergencies:
- | | |
|-------------------------------------|---|
| Austria: +43 1 406 43 43 | Luxembourg: +352 8002 5500 |
| Belgium: +32 70 245 245 | Netherlands: +31 30 274 88 88 |
| Bulgaria: +359 2 9154 409 | Norway: +47 22 591300 |
| Cyprus: 1401 | Poland: +48 22 619 66 54 |
| Czech Republic: +420 224 919 293 | +48 22 619 08 97 |
| +420 224 915 402 | Portugal: 800 250 250 (in Portugal only) |
| Denmark: +45 82 12 12 12 | +351 21 330 3284 |
| England and Wales: 111 | Romania: +40 21318 3606 |
| Estonia: +372 7943500 | Scotland: +8454 24 24 24 |
| France: +33 (0) 1 45 42 59 59 | Slovakia: +421 2 54 77 4 166 |
| Finland: +358 9 471 977 | Slovenia: +386 41 650 500 |
| Greece: 30 210 77 93 777 | South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.) |
| Hungary: +36 80 20 11 99 | Spain: +34 91 562 04 20 |
| Ireland (Republic): +353 1 837 9964 | Sweden: +46 08-331231 |
| Italy: +39 02 6610 1029 | 112 |
| Latvia: +371 670 42 473 | Switzerland: 145 |
| 112 | Turkey: 114 |
| Lithuania: +370 523 62052 | U.S.A. & Canada: +1 800 / 331 3148 |
| +370 687 53378 | All other countries: +1 651 / 632 6793 (Collect) |

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|--------------|--------------------|--------------|
| Product code | 6242 | Page 2 of 15 |
| Product name | Fury 100 EW | June 2020 |

For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 / 424 9300 (CHEMTREC)
 All other countries: +1 703 / 527 3887 (CHEMTREC - Collect)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Acute oral toxicity: Category 4 (H302)
 Acute inhalation toxicity: Category 4 (H332)
 Sensitisation – skin: Category 1 (H317)
 Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)

WHO classification Class II: Moderately hazardous

Health hazards The product is harmful by ingestion and inhalation. It may cause allergic reactions.

Environmental hazards The product is very toxic to aquatic organisms.

2.2. Label elements

According to EU Reg. 1272/2008 as amended

Product identifier Fury 100 EW
 Contains zeta-cypermethrin and 1,2-benzisothiazol-3(2H)-one

Hazard pictograms (GHS07, GHS09)



Signal word Warning

Hazard statements

H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H332 Harmful if inhaled.
 H410 Very toxic to aquatic life with long lasting effects.

Supplementary hazard statement

EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

Precautionary statements

P261 Avoid breathing vapours.
 P280 Wear protective gloves.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P312 Call a POISON CENTER or physician if you feel unwell.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P501 Dispose of contents and container as hazardous waste.

| | | |
|--------------|--------------------|--------------|
| Product code | 6242 | Page 3 of 15 |
| Product name | Fury 100 EW | June 2020 |

- 2.3. **Other hazards** None of the ingredients in the product meets the criteria for being PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1. **Substances** The product is a mixture, not a substance.
- 3.2. **Mixtures** See section 16 for full text of hazard statements.

Active ingredient

| | |
|--|--|
| Zeta-cypermethrin | Content: 12% by weight |
| CAS name | Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, cyano(3-phenoxyphenyl)methyl ester |
| CAS no. | 1315501-18-8 |
| IUPAC name | Mixture of the stereoisomers (S)- α -cyano-3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate, where the ratio of the (S);(1RS,3RS) isomeric pair to the (S);(1RS,3SR) isomeric pair lies in the ratio range 45-55 to 55-45 respectively |
| ISO name/EU name | Zeta-cypermethrin |
| EC no. (EINECS no.) | None |
| EU index no. | None |
| Molecular weight | 416.30 |
| Classification of the ingredient | Acute oral toxicity: Category 3 (H301) Acute inhalation toxicity: Category 4 (H332) Specific target organ toxicity (single exposure): Category 3 (H335) Hazards to the aquatic environment, acute: Category 1 (H400) chronic: Category 1 (H410) |

Reportable ingredients

| | Content (% w/w) | CAS no. | EC no. (EINECS no.) | Classification |
|---|--------------------|------------|------------------------|--|
| Propane-1,2-diol Reg. no. 01-2119456809-23 | 6 | 57-55-6 | 200-338-0 | Not classified |
| Poly(oxy-1,2-ethanediyl), α -tridecyl- ω -hydroxy-, phosphate, potassium salt | 1 | 68186-36-7 | None | Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412) |
| 1,2-Benzisothiazol-3(2H)-one | Max. 0.02 | 2634-33-5 | 220-120-9 | Acute Tox . 4 (H302) Skin Irrit 2 (H315) Eye Irrit. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400) |

SECTION 4: FIRST AID MEASURES

- 4.1. **Description of first aid measures** If exposure has occurred, do not wait for symptoms to develop, but immediately start the procedures described below.
- Inhalation If experiencing any discomfort, immediately remove from exposure.

| | | |
|--------------|--------------------|--------------|
| Product code | 6242 | Page 4 of 15 |
| Product name | Fury 100 EW | June 2020 |

Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

If breathing has stopped, immediately start artificial respiration and maintain until a physician takes charge of the exposed person.

Skin contact Immediately remove contaminated clothing and footwear. Do not start with flushing with water, but wipe off with dry cloth or using talcum powder, followed by washing with water and soap. Thereafter apply lidocaine, vitamin E cream, fatty skin care oil or cream. See physician if contamination is severe or if feeling unwell.

Eye contact Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician immediately.

Ingestion Call a doctor or get medical attention immediately. Make the exposed person rinse mouth and then drink 1 or 2 glasses of water or milk. Induce vomiting only if:

1. a significant amount (more than a mouthful) has been ingested
2. patient is fully conscious
3. medical aid is not readily available
4. time since ingestion is less than one hour.

Let the patient induce vomiting by touching the back of the throat with a finger. If vomiting occurs, take care that vomit does not enter airways. Let the exposed person rinse mouth and drink fluids again.

4.2. **Most important symptoms and effects, both acute and delayed** Zeta-cypermethrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia).

4.3. **Indication of any immediate medical attention and special treatment needed** If any sign of poisoning occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to a pyrethroid insecticide. Describe his/her condition and the extent of exposure. Immediately remove the exposed person from the area where the product is present.

As soon as a feeling of tingling is noted in any skin area (see section 11), it is recommended to immediately apply lidocaine or a vitamin E cream. For this purpose, lidocaine or vitamin E cream should be available at the workplace.

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

Notes to physician A specific antidote against this substance is not known. Gastric lavage and administration of activated charcoal can be considered. Normally recovery is spontaneous.

If allowed to penetrate the skin, **zeta-cypermethrin** may cause an

| | | |
|--------------|--------------------|--------------|
| Product code | 6242 | Page 5 of 15 |
| Product name | Fury 100 EW | June 2020 |

irritation similar to sunburn. The substance will be drawn into a non-polar environment such as a fat based oil or cream. Vitamin E cream has been reported to be beneficial. Water is highly polar and will not decrease, but may prolong the irritation. Hot water may increase the pain.

For eye contamination, instillation of local anaesthetic can be considered.

SECTION 5: FIRE-FIGHTING MEASURES

- | | |
|---|--|
| 5.1. Extinguishing media | Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams. |
| 5.2. Special hazards arising from the substance or mixture | The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as hydrogen chloride, nitrogen oxides, carbon monoxide, carbon dioxide and various chlorinated organic compounds. Traces of hydrogen cyanide may be present. |
| 5.3. Advice for firefighters | Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| 6.1. Personal precautions, protective equipment and emergency procedures | <p>It is recommended to have a plan for the avoidance of spills. If spillage does occur, it has to be removed and the area cleaned immediately according to a predetermined plan. It is recommended to clean area or equipment also if contamination is suspected.</p> <p>Empty, sealable vessels for the collection of spills should be available.</p> <p>In case of large spill (involving 10 tonnes of the product or more):</p> <ol style="list-style-type: none"> 1. use personal protection equipment; see section 8 2. call emergency telephone no.; see section 1 3. alert authorities. <p>Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.</p> <p>Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area. Avoid and reduce formation of vapour or mist as much as possible.</p> |
| 6.2. Environmental precautions | Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water |

| | | |
|--------------|--------------------|--------------|
| Product code | 6242 | Page 6 of 15 |
| Product name | Fury 100 EW | June 2020 |

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

6.3. Methods and materials for containment and cleaning up

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

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

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

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

6.4. Reference to other sections

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

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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

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

Keep all unprotected persons and children away from working area.

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

The work area should always be kept clean. Used personal protection equipment should either be thrown out or be cleaned immediately

| | | |
|--------------|--------------------|--------------|
| Product code | 6242 | Page 7 of 15 |
| Product name | Fury 100 EW | June 2020 |

after use. Respirator should be cleaned and filter replaced according to instructions provided with respirator.

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

7.2. Conditions for safe storage, including any incompatibilities

The product is stable under normal conditions of warehouse storage.

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

7.3. Specific end use(s)

The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Personal exposure limits

To our knowledge, no exposure limits have been established for the active ingredient in this product.

Propane-1,2-diol

AIHA (USA) WEEL
 MAK (Germany)
 HSE (UK) WEL

| | Year | |
|------|---|--|
| 2015 | 10 mg/m ³ | |
| 2014 | Cannot be established at present | |
| 2011 | 8-hr TWA | |
| | 150 ppm (474 mg/m ³), total (vapour and particulates) | |
| | 10 mg/m ³ (particulates) | |

However, other personal exposure limits defined by local regulations may exist and must be observed.

Zeta-cypermethrin

DNEL

Not established

PNEC, aquatic environment

The EFSA has established an AOEL of 0.02 mg/kg bw/day
 0.0013 ng/l

Propane-1,2-diol

DNEL, inhalation, systemic

183 mg/m³

DNEL, inhalation, local

10 mg/m³

PNEC, fresh water

260 mg/l

PNEC, marine water

26 mg/l

8.2. Exposure controls

When used in a closed system, personal protection equipment will not

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|--------------|--------------------|--------------|
| Product code | 6242 | Page 8 of 15 |
| Product name | Fury 100 EW | June 2020 |

be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

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



Respiratory protection

In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves

Wear long chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown. Generally, however, the use of protective gloves will give only partial protection against dermal exposure. Small tears in the gloves and cross-contamination can easily occur. It is recommended to limit the work to be done manually and to change the gloves immediately if there is a suspicion of contamination. Be careful not to touch anything with contaminated gloves. Used gloves should be thrown out and not be reused. Wash hands with water and soap immediately after work is finished.



Eye protection

Wear face shield rather than goggles or safety glasses. The possibility of eye contact should be excluded.



Other skin protection

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

| | |
|-----------------------|-----------------------------|
| Appearance | Light brown to beige liquid |
| Odour | Slight, acrid |
| Odour threshold | Not determined |
| pH | 4.15 |

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|--------------|--------------------|--------------|
| Product code | 6242 | Page 9 of 15 |
| Product name | Fury 100 EW | June 2020 |

| | |
|--|---|
| Melting point/freezing point | Not determined |
| Initial boiling point and boiling range | Not determined |
| Flash point | > 100°C |
| Evaporation rate | Not determined |
| Flammability (solid/gas) | Not applicable (liquid) |
| Upper/lower flammability or explosive limits | Not determined |
| Vapour pressure | Zeta-cypermethrin : 2.53 x 10 ⁻⁷ Pa at 25°C |
| Vapour density | Not determined |
| Relative density | 1.0385 at 20°C |
| Solubility(ies) | Solubility of zeta-cypermethrin at 20°C in ethyl acetate > 1000 g/l n-heptane 40.12 g/l water 0.0387 mg/l |
| Partition coefficient n-octanol/water | Zeta-cypermethrin : log K _{ow} = 5 - 6 at 24°C |
| Autoignition temperature | > 600°C |
| Decomposition temperature | Not determined |
| Viscosity | Viscosity is dependent on shear rate 63 - 1081 mPa.s at 20°C 47 - 707 mPa.s at 40°C |
| Explosive properties | Not explosive |
| Oxidising properties | Not oxidising |

9.2. Other information

| | |
|-------------------|--------------------------------------|
| Miscibility | The product is dispersible in water. |
|-------------------|--------------------------------------|

SECTION 10: STABILITY AND REACTIVITY

| | |
|--|---|
| 10.1. Reactivity | To our knowledge, the product has no special reactivities. |
| 10.2. Chemical stability | The product is stable during normal handling and storage at ambient temperatures. |
| 10.3. Possibility of hazardous reactions | None known. |
| 10.4. Conditions to avoid | Heating of the product will evolve harmful and irritant vapours. |
| 10.5. Incompatible materials | None known. |
| 10.6. Hazardous decomposition products | See subsection 5.2. |

♣ SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|--|---|
| 11.1. Information on toxicological effects | * = Based on available data, the classification criteria are not met. |
|--|---|

Product

| | |
|-------------------------------|---|
| Acute toxicity | The product is harmful by ingestion and inhalation, but is not considered harmful by skin contact. The acute toxicity is measured as: |
| Route(s) of entry - ingestion | LD ₅₀ , oral, rat: 385 mg/kg (method OECD 401) |

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|--------------|--------------------|---------------|
| Product code | 6242 | Page 10 of 15 |
| Product name | Fury 100 EW | June 2020 |

| | |
|---|---|
| - skin | LD ₅₀ , dermal, rat: > 2000 mg/kg * (method OECD 402) |
| - inhalation | LC ₅₀ , inhalation, rat: 2.09 mg/l/4 h (method OECD 403) |
| Skin corrosion/irritation | May be mildly irritating to skin (method OECD 404). * |
| Serious eye damage/irritation | Not irritating to eyes (method OECD 405). * |
| Respiratory or skin sensitisation ... | Sensitising to skin (method OECD 406). |
| Germ cell mutagenicity | The product contains no ingredient known to be mutagenic. * |
| Carcinogenicity | The product contains no ingredients known to be carcinogenic. * |
| Reproductive toxicity | The product contains no ingredients known to have adverse effects on reproduction. * |
| STOT – single exposure | No other specific effects after single exposure than mentioned elsewhere in this safety data sheet have been observed. * |
| STOT – repeated exposure | The following is measured on the active ingredient zeta-cypermethrin: Target organ: nervous system. Repeated exposure may cause neurotoxic effects. Various symptoms of toxicity (ataxia, decreased activity, dehydration) were observed in a 90-day oral test with rats at exposure levels of 70 mg/kg bw/day. |
| Aspiration hazard | The product does not present an aspiration pneumonia hazard. * |
| Symptoms and effects, acute and delayed | On contact, zeta-cypermethrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia), which is harmless at low exposure, but can be quite painful, especially in the eye. The effect may result from splash, aerosol or transfer from contaminated gloves. The effect is transient, lasting up to 24 hours, but may in exceptional cases last longer. It may be considered as a warning that overexposure has occurred and that work practice should be reviewed. If swallowed or inhaled small doses may produce non-specific symptoms (e.g. nausea, vomiting, diarrhoea). Larger doses may produce disturbance of the central nervous system (e.g. tremors, convulsions, coma). |
| <u>Zeta-cypermethrin</u> Toxicokinetics, metabolism and distribution | After oral administration, zeta-cypermethrin is absorbed, initially widely distributed in the body and finally distributed mostly to the skin and fatty tissues. It is extensively metabolised. It is eliminated almost completely within 72 hours. |
| Acute toxicity | Zeta-cypermethrin is toxic if swallowed and harmful by inhalation. Toxicity by skin contact is less severe. Results for acute toxicity vary |

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|--------------|--------------------|---------------|
| Product code | 6242 | Page 11 of 15 |
| Product name | Fury 100 EW | June 2020 |

with study design and vehicle. The following results are mentioned in literature:

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|---------------------------------------|--------------|---|
| Route(s) of entry | - ingestion | LD ₅₀ , oral, rat (male): 134 -557 mg/kg LD ₅₀ , oral, rat (female): 86 - 1264 mg/kg |
| | - skin | LD ₅₀ , dermal, rat: > 2000 mg/kg * |
| | - inhalation | LC ₅₀ , inhalation, rat: 1.26 - 2.5 mg/l/4 h |
| Skin corrosion/irritation | | Not irritating to skin. * |
| Serious eye damage/irritation | | Not irritating to eyes. * |
| Respiratory or skin sensitisation ... | | Sensitising when measured according to method OECD 406. |

Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, phosphate, potassium salt

Acute toxicity The substance may be harmful by ingestion, but is considered as not harmful by skin contact or by inhalation. The acute toxicity is measured as:

| | | |
|---------------------------------------|--------------|---|
| Route(s) of entry | - ingestion | LD ₅₀ , oral, rat: > 2000 mg/kg |
| | - skin | LD ₅₀ , dermal, rat: not available |
| | - inhalation | LC ₅₀ , inhalation, rat: not available |
| Skin corrosion/irritation | | Irritating to skin. |
| Serious eye damage/irritation | | Severely irritating to eyes. |
| Respiratory or skin sensitisation ... | | Not sensitising. * |

1,2-Benzisothiazol-3(2H)-one

Acute toxicity The substance is harmful by ingestion.

| | | |
|---------------------------------------|--------------|---|
| Route(s) of entry | - ingestion | LD ₅₀ , oral, rat (male): 670 mg/kg LD ₅₀ , oral, rat (female): 784 mg/kg (method OPPTS 870.1100, measured on 73% solution) |
| | - skin | LD ₅₀ , dermal, rat: > 2000 mg/kg * (method OPPTS 870.1200, measured on 73% solution) |
| | - inhalation | LC ₅₀ , inhalation, rat: not available |
| Skin corrosion/irritation | | Slightly irritating to skin (method OPPTS 870.2500). |
| Serious eye damage/irritation | | Severely irritating to eyes (method OPPTS 870.2400). |
| Respiratory or skin sensitisation ... | | Moderate dermal sensitizer to guinea pigs (method OPPTS 870.2600). The substance appears to be significantly more sensitising to humans. |

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|--------------|--------------------|---------------|
| Product code | 6242 | Page 12 of 15 |
| Product name | Fury 100 EW | June 2020 |

♣ SECTION 12: ECOLOGICAL INFORMATION

- 12.1. **Toxicity** The product is extremely toxic to fish, aquatic invertebrates and insects. It is not considered as harmful to aquatic plants, soil micro- and macroorganisms and birds.

The ecotoxicity of the product was measured as:

| | | |
|-----------------|--|---|
| - Fish | Rainbow trout (<i>Oncorhynchus mykiss</i>) | 96-h LC ₅₀ : 18 µg/l 21-day NOEC: 5.6 µg/l |
| - Invertebrates | Daphnids (<i>Daphnia magna</i>) | 48-h EC ₅₀ : 0.34 µg/l 21-day NOEC: 0.10 µg/l |
| | Amphipods (<i>Gammarus pulex</i>) | 48-h EC ₅₀ : 0.21 µg/l |
| - Algae | Green algae (<i>Scenedesmus subspicatus</i>) | 24-h E _r C ₅₀ : 1.6 mg/l |
| - Earthworms | <i>Eisenia foetida</i> | 14-day LC ₅₀ : 750 mg/kg |
| - Insects | Honeybees (<i>Apis mellifera</i>) | LD ₅₀ , oral: 0.436 µg/bee LD ₅₀ , contact: 0.021 µg/bee |

- 12.2. **Persistence and degradability** **Zeta-cypermethrin** is not readily biodegradable. Primary degradation half-lifetimes are generally a few weeks in aerobic soil, depending on circumstances.

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

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

Zeta-cypermethrin has the potential to bioaccumulate, but in view of its high acute toxicity to aquatic organisms, bioaccumulation is not relevant.

- 12.4. **Mobility in soil** **Zeta-cypermethrin** is not mobile in the environment. It binds tightly to soil particles

- 12.5. **Results of PBT and vPvB assessment** None of the ingredients meets the criteria for being PBT or vPvB.

- 12.6. **Other adverse effects** Other relevant hazardous effects in the environment are not known.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. **Waste treatment methods** Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

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

| | | |
|--------------|--------------------|---------------|
| Product code | 6242 | Page 13 of 15 |
| Product name | Fury 100 EW | June 2020 |

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

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

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

1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

- | | |
|--|---|
| 14.1. UN number | 3082 |
| 14.2. UN proper shipping name | Environmentally hazardous substance, liquid, n.o.s. (zeta-cypermethrin) |
| 14.3. Transport hazard class(es) | 9 |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | Marine pollutant |
| 14.6. Special precautions for user | Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment. |
| 14.7. Transport in bulk according to Annex II of MARPOL and the IBC code | The product is not transported in bulk by ship. |

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|--------------|--------------------|---------------|
| Product code | 6242 | Page 14 of 15 |
| Product name | Fury 100 EW | June 2020 |

SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Seveso category (Dir. 2012/18/EU): dangerous for the environment
- Young people under the age of 18 are not allowed to work with the substance.
- All ingredients are covered by EU chemical legislation.
- 15.2. **Chemical safety assessment**
- A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet

Minor corrections only.

List of abbreviations

| | |
|--------------------------------|--|
| AIHA | American Industrial Hygiene Association |
| AOEL | Acceptable Operator Exposure Level |
| CAS | Chemical Abstracts Service |
| Dir. | Directive |
| DNEL | Derived No Effect Level |
| EC | European Community |
| EC ₅₀ | 50% Effect Concentration |
| E _r C ₅₀ | 50% Effect Concentration based on growth |
| EFSA | European Food Safety Authority |
| EINECS | European INventory of Existing Commercial Chemical Substances |
| EW | Emulsion, oil in Water |
| GHS | Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013 |
| HSE | Health & Safety Executive (UK) |
| IBC | International Bulk Chemical code |
| ISO | International Organisation for Standardization |
| IUPAC | International Union of Pure and Applied Chemistry |
| LC ₅₀ | 50% Lethal Concentration |
| LD ₅₀ | 50% Lethal Dose |
| MAK | Maximale Arbeitsplatz-Konzentration |
| MARPOL | Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution |
| NOEC | No Observed Effect Concentration |
| n.o.s. | Not otherwise specified |
| OECD | Organisation for Economic Cooperation and Development |
| OPPTS | Office for Prevention, Pesticides and Toxic Substances |
| PBT | Persistent, Bioaccumulative, Toxic |
| PNEC | Predicted No Effect Concentration |
| Reg. | Regulation |
| STOT | Specific Target Organ Toxicity |
| TWA | Time Weighted Average |
| vPvB | very Persistent, very Bioaccumulative |



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|--------------|--------------------|---------------|
| Product code | 6242 | Page 15 of 15 |
| Product name | Fury 100 EW | June 2020 |

WEEL Workplace Environmental Exposure Level

WEL Workplace Exposure Limit

WHO World Health Organisation

References Data measured on this product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Method for classification Test data

Used hazard statements
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H315 Causes skin irritation
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

Advice on training This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

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

Prepared by: FMC Agricultural Solutions A/S / GHB