

# SAFETY DATA SHEET



## DuPont™ Zorvec® Encantia®

Version 2.1  
Document no. 130000124577

Revision Date 11.09.2019  
Issue Date 11.09.2019

This SDS adheres to the standards and regulatory requirements of Malaysia and may not meet the regulatory requirements in other countries.

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product name** : DuPont™ Zorvec® Encantia®

**Other names** : B13157422  
DPX-TAH88 330 g/L SE

**Recommended use of the chemical and restriction on use**

Recommended use : Fungicide

Restrictions on use : Do not use product for anything outside of the above specified uses.

**Manufacturer, importer, supplier, representative office**

Company : Du Pont Production Agriscience (Malaysia) Sdn Bhd  
Street address : B-3-3, The Ascent Paradigm, SS 7 /26A, Kelana Jaya 47301, Selangor.  
Malaysia  
Telephone : +60 3 7800 0280  
Telefax : +60 3 7800 8415

**Emergency telephone number** : +60 3 7800 0287

### 2. HAZARDS IDENTIFICATION

**Product hazard classification**

Skin sensitisation : Category 1  
Specific target organ toxicity - repeated exposure : Category 2 (Eyes)  
Hazardous to the aquatic environment - acute hazard : Category 1  
Hazardous to the aquatic environment - chronic hazard : Category 1

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

**Label content**

Pictogram :



Signal word : Warning

Hazardous warnings : May cause an allergic skin reaction.  
May cause damage to organs through prolonged or repeated exposure.  
Very toxic to aquatic life with long lasting effects.

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**Precautionary statements** : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves.  
IF ON SKIN: Wash with plenty of soap and water.  
Get medical advice/ attention if you feel unwell.  
If skin irritation or rash occurs: Get medical advice/ attention.  
Wash contaminated clothing before reuse.  
Collect spillage.  
Dispose of contents/ container to an approved waste disposal plant.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature** : Mixture

#### Components

Chemical name	CAS-No.	Concentration
Famoxadone	131807-57-3	28.3 %
Oxathiapiprolin	1003318-67-9	2.83 %
Water	7732-18-5	30 - 40%
Propane-1,2-diol	57-55-6	10 - 20%
White mineral oil (petroleum)	8042-47-5	10 - 20%
Alcohols, C12-15, ethoxylated	68131-39-5	0.3 - 1%

### 4. FIRST AID MEASURES

Never give anything by mouth to an unconscious person.  
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

- Inhalation** : Move to fresh air. Artificial respiration and/or oxygen may be necessary. Call a poison control center or doctor for treatment advice.
- Skin contact** : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
- Ingestion** : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.
- Most important symptoms/effects, acute and delayed** : No information available.
- Protection of first-aiders** : No information available.
- Notes to physician** : Treat symptomatically.

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## 5. FIREFIGHTING MEASURES

- Suitable extinguishing media** : Water spray, Dry chemical, Foam, Carbon dioxide (CO<sub>2</sub>)
- Unsuitable extinguishing media** : High volume water jet, (contamination risk)
- Specific hazards** : No information available.
- Special protective equipment for firefighters** : Wear full protective clothing and self-contained breathing apparatus.
- Specific extinguishing methods** : No information available.
- Further information** : Prevent fire extinguishing water from contaminating surface water or the ground water system. 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.  
(on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

## 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures** : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
- Environmental precautions** : Prevent material from entering sewers, waterways, or low areas.
- Methods and materials for containment and cleaning up** : Soak up with sawdust, sand, oil dry or other absorbent material. Dispose of in an approved container.  
If liquid has been spilt in large quantities clean up promptly by scoop or vacuum.
- Additional advice** : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

## 7. HANDLING AND STORAGE

### Handling

- Technical measures/Precautions** : Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.
- Precautions for safe handling** : Keep away from heat and sources of ignition.

### Storage

- Suitable storage conditions** : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Keep tightly closed in a dry, cool and well-ventilated

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place. Keep container closed when not in use. Observe label precautions. Keep out of the reach of children.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Applicable occupational exposure limits are listed below.

White mineral oil (petroleum)		
TWA	5 mg/m <sup>3</sup> (Mist)	MY PEL (2000-04-04)
TWA	5 mg/m <sup>3</sup> (Inhalable fraction)	ACGIH (2013-03-01)
Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified		
TWA (total hydrocarbon vapor)	200 mg/m <sup>3</sup>	ACGIH (2010-03-01)
Butanone		
TWA	200 ppm 590 mg/m <sup>3</sup>	MY PEL (2000-04-04)
TWA	200 ppm	ACGIH (2013-03-01)
STEL	300 ppm	ACGIH (2013-03-01)

**Engineering measures** : Ensure adequate ventilation, especially in confined areas.

**Biological occupational exposure limits** : No information available.

#### Personal protective equipment

Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge.

Hand protection : Material: Protective gloves

Eye protection : Wear protective eyewear to prevent contact with this substance.

Skin protection : Wear protective clothing such as gloves, apron, boots, or coveralls, as appropriate.

**Hygiene measures** : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Protective measures** : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Use this product in accordance with its label.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance (Physical state, form, colour, etc.)

Physical state : liquid

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Form	: liquid
Colour	: off-white
<b>Odour</b>	: none
<b>Odour Threshold</b>	: no data available
<b>pH</b>	: not determined
<b>Melting point/freezing point</b>	No information available.
<b>Initial boiling point and boiling range</b>	
Boiling point	: > 100 °C
<b>Flash point</b>	: 77 °C
<b>Evaporation rate</b>	: not determined
<b>Flammability (solid, gas)</b>	: No information available.
<b>Upper/lower flammability or explosive limits</b>	
Upper explosion limit	: not determined
Lower explosion limit	: not determined
<b>Vapour pressure</b>	: not determined
<b>Vapour density</b>	: No information available.
<b>Density</b>	
Specific gravity (Relative density)	: 1.05 - 1.12
<b>Solubility(ies)</b>	
Water solubility	: dispersible
<b>Partition coefficient: n-octanol/water</b>	: no data available
<b>Auto-ignition temperature</b>	
Auto-ignition temperature	: 422 °C
Ignition temperature	: not determined
<b>Decomposition temperature</b>	: no data available
<b>Viscosity</b>	
Viscosity, kinematic	: no data available
Viscosity, dynamic	: no data available
<b>Molecular weight</b>	: No information available.
<b>Oxidizing properties</b>	: The product is not oxidizing.


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**10. STABILITY AND REACTIVITY**

- Reactivity** : No information available.
- Chemical stability** : Stable at normal temperatures and storage conditions.
- Possibility of hazardous reactions** : Polymerization will not occur.
- Conditions to avoid** : None reasonably foreseeable.
- Materials to avoid** : No materials to be especially mentioned.
- Hazardous decomposition products** : No information available.

**11. TOXICOLOGICAL INFORMATION**
**Acute toxicity**
**Oral**

- DuPont™ Zorvec® Encantia® : LD50/Rat: 5,000 mg/kg  
 Method: OECD Test Guideline 425  
 Information source: Internal study report, (Data on the product itself)

**Inhalation**

- DuPont™ Zorvec® Encantia® : LC50/4 h/Rat(dust/mist): > 5.0 mg/l  
 Method: OECD Test Guideline 403  
 The substance or mixture has no acute inhalation toxicity  
 Information source: Internal study report, (Data on the product itself)

**Dermal**

- DuPont™ Zorvec® Encantia® : LD50/Rat: > 5,000 mg/kg  
 Method: OECD Test Guideline 402  
 Information source: Internal study report, (Data on the product itself)

**Skin corrosion/irritation**

- DuPont™ Zorvec® Encantia® : Species: Rabbit  
 Result: No skin irritation  
 Method: OECD Test Guideline 404  
 Minimal effects that do not meet the threshold for classification.

**Serious eye damage/eye irritation**

- DuPont™ Zorvec® Encantia® : Species: Rabbit  
 Result: No eye irritation  
 Method: OECD Test Guideline 405  
 Information source: Internal study report  
 (Data on the product itself)

**Respiratory or skin sensitisation**

- DuPont™ Zorvec® Encantia® : Species: Guinea pig  
 Result: May cause sensitisation by skin contact.  
 Method: OECD Test Guideline 406  
 Information source: Internal study report  
 (Data on the product itself)

**Germ cell mutagenicity**

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- Famoxadone : Animal testing did not show any mutagenic effects. Test on bacterial cultures did not show mutagenic effects. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
- Oxathiapiprolin : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
- Propane-1,2-diol : Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- White mineral oil (petroleum) : Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- Alcohols, C12-15, ethoxylated : Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Information given is based on data obtained from similar substances.

### Carcinogenicity

- Famoxadone : Animal testing did not show any carcinogenic effects.
- Oxathiapiprolin : Animal testing did not show any carcinogenic effects.
- Propane-1,2-diol : Animal testing did not show any carcinogenic effects.
- White mineral oil (petroleum) : Not classifiable as a human carcinogen.  
Animal testing did not show any carcinogenic effects.

### Reproductive toxicity

- Famoxadone : Reproductive toxicity: Weight of evidence does not support classification for reproductive toxicity  
Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.  
No effects on or via lactation  
Teratogenicity: Animal testing showed no developmental toxicity.
- Oxathiapiprolin : Reproductive toxicity: No toxicity to reproduction  
Slight delays in maturation observed in rats.  
Teratogenicity: Animal testing showed no developmental toxicity.
- Propane-1,2-diol : Reproductive toxicity: No toxicity to reproduction  
Animal testing showed no reproductive toxicity.  
No effects on or via lactation  
Teratogenicity: Animal testing showed no developmental toxicity.
- White mineral oil (petroleum) : Reproductive toxicity: No toxicity to reproduction  
Animal testing showed no reproductive toxicity.  
No effects on or via lactation  
Teratogenicity: Animal testing showed no developmental toxicity.
- Alcohols, C12-15, ethoxylated : Reproductive toxicity: No toxicity to reproduction  
Animal testing showed no reproductive toxicity.  
No effects on or via lactation  
Teratogenicity: Animal testing showed no developmental toxicity.

### Specific Target Organ Toxicity

#### Specific target organ toxicity - single exposure

- Famoxadone : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Oxathiapiprolin : The substance or mixture is not classified as specific target organ toxicant, single exposure.

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- Propane-1,2-diol : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- White mineral oil (petroleum) : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Alcohols, C12-15, ethoxylated : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Specific target organ toxicity - repeated exposure**
- Famoxadone : Target Organs: Eyes  
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
- Oxathiapiprolin : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Propane-1,2-diol : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- White mineral oil (petroleum) : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Alcohols, C12-15, ethoxylated : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Aspiration hazard**  
DuPont™ Zorvec® Encantia® : The mixture does not have properties associated with aspiration hazard potential.
- Other**
- Famoxadone : Repeated dose toxicity:  
The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.  
Oral - feed/Dog  
Target Organs: Eyes  
eye effects  
Oral - feed/Rat  
Reduced body weight gain, Organ weight changes, Increased liver enzyme levels in serum, Liver effects, Red blood cell destruction causing abnormal decrease in number of red blood cells (anaemia)  
Dermal/Rat  
Increased liver weight, Increased liver enzyme levels in serum
- Oxathiapiprolin : Repeated dose toxicity:  
Oral/Rat  
No toxicologically significant effects were found.  
Oral/Dog  
No toxicologically significant effects were found.  
Oral/Mouse  
No toxicologically significant effects were found.
- Propane-1,2-diol : Repeated dose toxicity:  
Ingestion/Cat 94 d  
NOAEL: 443 mg/kg  
LOAEL: 4,239 mg/kg  
No toxicologically significant effects were found.  
Inhalation/Rat 90 d



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NOAEL: > 2.2 mg/l  
LOAEL: 0.16 mg/l  
No toxicologically significant effects were found.

White mineral oil (petroleum) : Repeated dose toxicity:  
Ingestion/Rat 90 d  
NOAEL: 1,815 mg/kg  
LOAEL: > 1,815 mg/kg  
Method: OECD Test Guideline 408  
No toxicologically significant effects were found.  
Inhalation/Rat 28 d  
NOAEL: 1.0 mg/l  
Method: OECD Test Guideline 412  
lung effects  
Dermal/Rat 13 Weeks  
NOAEL: > 2,000 mg/kg  
LOAEL: 120 mg/kg  
Method: OECD Test Guideline 411  
Skin effects

Alcohols, C12-15, ethoxylated : Repeated dose toxicity:  
Ingestion/Rat 90 d  
NOAEL: 500 mg/kg  
LOAEL: > 500 mg/kg  
Method: OECD Test Guideline 408  
No toxicologically significant effects were found.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity effects

Acute and prolonged toxicity to fish  
DuPont™ Zorvec® Encantia®

: Static renewal test/LC50/96 h/Oncorhynchus mykiss (rainbow trout):  
0.085 mg/l  
Method: OECD Test Guideline 203  
Information source: Internal study report, (Data on the product itself)  
LC50/96 h/Cyprinus carpio (Carp): 3.9 mg/l

Toxicity to aquatic plants

DuPont™ Zorvec® Encantia®

: EbC50/96 h/Pseudokirchneriella subcapitata (green algae): 0.030 mg/l  
Method: OECD Test Guideline 201  
Information source: Internal study report, (Data on the product itself)

Acute toxicity to aquatic invertebrates

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: EC50/48 h/Daphnia magna (Water flea): 0.185 mg/l  
Method: OECD Test Guideline 202  
Information source: Internal study report, (Data on the product itself)

Chronic toxicity to fish

Famoxadone

Alcohols, C12-15, ethoxylated

: NOEC/90 d/Oncorhynchus mykiss (rainbow trout): 0.0014 mg/l  
: NOEC/30 d/Pimephales promelas (fathead minnow): 0.28 mg/l

Chronic toxicity to aquatic Invertebrates

Famoxadone

Oxathiapiprolin

: NOEC/21 d/Daphnia magna (Water flea): 0.0037 mg/l  
: flow-through test/NOEC/32 d/Americamysis bahia (mysid shrimp): 0.058

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mg/l  
Information source: Internal study report

Propane-1,2-diol : NOEC/7 d/Ceriodaphnia dubia (water flea): 13,020 mg/l  
White mineral oil (petroleum) : NOEC/21 d/Daphnia magna (Water flea): 10 mg/l  
Information given is based on data obtained from similar substances.

Alcohols, C12-15, ethoxylated : NOEC/21 d/Daphnia magna (Water flea): 0.77 mg/l  
Information given is based on data obtained from similar substances.

### Persistence and degradability

Famoxadone : Result: Not biodegradable  
Oxathiapiprolin : Result: Not readily biodegradable.  
Propane-1,2-diol : Result: Biodegradable  
White mineral oil (petroleum) : Result: Not biodegradable  
Information given is based on data obtained from similar substances.  
Alcohols, C12-15, ethoxylated : Result: Biodegradable

### Bioaccumulation

Famoxadone : Bioaccumulation is unlikely.  
Propane-1,2-diol : Bioaccumulation is unlikely.  
Alcohols, C12-15, ethoxylated : Does not bioaccumulate.

### Mobility in soil

No information available.

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** : In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container.

**Contaminated packaging** : Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

### IMDG

UN number : 3082  
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Famoxadone, Oxathiapiprolin)  
Transport hazard class : 9  
Packing group : III  
Marine pollutant : yes (Famoxadone, Oxathiapiprolin)

### IATA

UN number : 3082  
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Famoxadone, Oxathiapiprolin)  
Transport hazard class : 9

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Packing group : III

Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises : Not applicable

## 15. REGULATORY INFORMATION

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.  
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.  
Pesticides Act 1974 (Act 149) (Incorporating all amendments up to 1 January 2006).

## 16. OTHER INFORMATION

### References

SDS Number: 130000124577

### Revision Date/Version

Date of first preparation : 04.07.2019  
Revision Date : 11.09.2019  
Version : 2.1

Take notice of the directions of use on the label.

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Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.