



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

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

#### Product information

**Product Name:** RAVAP EC  
**SDS Number:** 122000008512

**Use** : Restricted Use Pesticide

#### Company

Bayer HealthCare, LLC  
Animal Health Division  
12707 Shawnee Mission Parkway  
(West 63rd)  
Shawnee, KS 66216-1846  
UNITED STATES OF AMERICA  
(800) 633-3796

**In case of emergency:** (800) 422-9874  
Chemtrec: (800) 424-9300  
BAYER INFORMATION PHONE:(800) 633-3796  
INTERNATIONAL:(703) 527-3887

### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

#### Classification according to national GHS implementation:

Flammable liquids, Category 4 (H227)  
Acute toxicity, Oral, Category 4 (H302)  
Skin irritation, Category 2 (H315)  
Eye irritation, Category 2A (H319)  
Specific target organ toxicity - repeated exposure, Category 2 (H373)

#### Label elements

#### Labelling according to national GHS implementation:



Warning

#### Hazard statements:

H227 Combustible liquid.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements:

Prevention:



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

### Hazardous components which must be listed on the label:

Components:	CAS-No.
Tetrachlorvinphos	22248-79-9
Phenol	108-95-2
dichlorvos (ISO)	62-73-7

### Other hazards

Other hazards which do not result in classification:

The material can accumulate static charge and can therefore cause electrical ignition.

May cause allergic skin reaction. Causes skin burns.

Corrosive - causes irreversible eye damage.

Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.

Suspected of causing genetic defects.

DANGER!

---

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

#### Hazardous components

##### Tetrachlorvinphos

Concentration [Weight percent] 23

CAS-No.: 22248-79-9

CAS name: Phosphoric acid, (1Z)-2-chloro-1-(2,4,5-trichlorophenyl)ethenyl dimethyl ester

#### GHS Classification:



Acute Tox. 4 H302

**M-Factor:** 100

##### Phenol

Concentration [Weight percent] 14

CAS-No.: 108-95-2

CAS name: Phenol



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

### GHS Classification:



Skin Corr. 1A H314  
Eye Dam. 1 H318  
STOT RE 2 H373

### dichlorvos (ISO)

Concentration [Weight percent] 5.3

CAS-No.: 62-73-7

CAS name: Phosphoric acid, 2,2-dichloroethenyl dimethyl ester

### GHS Classification:



Acute Tox. 2 H300  
Acute Tox. 1 H330  
Acute Tox. 2 H310

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### Description of first aid measures

**General advice:** Take off all contaminated clothing immediately.

**If inhaled:** Remove to fresh air. Call a physician immediately.

**In case of skin contact:** After contact with skin, wash immediately with plenty of soap and water. If skin reactions occur, contact a physician.

**In case of eye contact:** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**If swallowed:** If swallowed, seek medical advice immediately and show this container or label.

### Most important acute symptoms/effects

**Symptoms:** No information available.

**Risks:** No information available.

### Indication of any immediate medical attention and special treatment needed

No information available.

## 5. FIREFIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media:** High volume water jet

### Special hazards arising from the substance or mixture

**Specific hazards during firefighting:** Fire may cause evolution of: Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>)



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

**Further information:** Prevent fire extinguishing water from contaminating surface water or the ground water system.

### Advice for firefighters

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

### Environmental precautions

### Methods and materials for containment and cleaning up

**Methods for cleaning up:** Cover spilled product with liquid-binding material (sand, silica gel, acid binder, universal binder, hybilat). Take up mechanically and fill into labeled, closable containers.

### Reference to other sections

**Additional advice:** Keep away from/remove sources of ignition.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Handling:

Avoid formation of aerosol. Only handle product with local exhaust ventilation. Avoid contact with skin, eyes and clothing.

Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition.

### Conditions for safe storage, including any incompatibilities

### Specific end use(s)

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Phenol	108-95-2	TWA	5 ppm	ACGIH
		TWA	5 ppm 19 mg/m <sup>3</sup>	NIOSH REL
		C	15.6 ppm 60 mg/m <sup>3</sup>	NIOSH REL
		TWA	5 ppm 19 mg/m <sup>3</sup>	OSHA Z-1



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

		TWA	5 ppm 19 mg/m <sup>3</sup>	OSHA P0
dichlorvos	62-73-7	TWA (Inhalable fraction and vapor)	0.1 mg/m <sup>3</sup>	ACGIH
		TWA	1 mg/m <sup>3</sup>	NIOSH REL
		TWA	1 mg/m <sup>3</sup>	OSHA Z-1
		TWA	1 mg/m <sup>3</sup>	OSHA P0

### Hazardous components without workplace control parameters

Components	CAS-No.
Tetrachlorvinphos	22248-79-9

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Phenol	108-95-2	Phenol	Urine	End of shift (As soon as possible after exposure ceases)	250 mg/g Creatinine	ACGIH BEI

### Personal protective equipment

Respiratory protection : Recommended Filter type:  
Organic vapor with prefilter

None required for consumer use of this product.

#### Hand protection

Material : Hand protection: protective gloves for chemicals made of

Material : butyl-rubber

Material : Neoprene

Material : PVC

Remarks : Breakthrough time not tested; dispose of immediately after contamination. Advice: The gloves should not be reused.

Eye protection : Safety glasses  
None required for consumer use of this product.

Protective measures : Wear suitable protective equipment.  
Please consult label for end-user requirements.



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

Form:	liquid	
Colour:	clear	
Odour:	aromatic	
Melting point/range:	> 350 °F	
Boiling point/boiling range:	No statements available.	
Density:	1.055 g/cm <sup>3</sup>	
Bulk density:	Not applicable	
Vapour pressure:	No statements available.	
Viscosity, dynamic:	No statements available.	
Viscosity, kinematic:	No statements available.	
Flow time:	No statements available.	
Surface tension:	No statements available.	
Water solubility:	No statements available.	
Solubility(ies):	No statements available.	
pH:	No statements available.	
Corrosive to metal:	No statements available.	
Partition coefficient (n-octanol/water):	Tetrachlorvinphos log Pow: 3.53 Phenol log Pow: 1.46 dichlorvos (ISO) Pow: 1.9	OECD 123
Flash point:	67.8 °C	ASTM D 93
Inflammability (solid, gaseous):	Not applicable	
Explosion limits:	Phenol upper: 9.5 %(V) lower: 1.3 %(V)	

#### Other information

Miscibility with water: No statements available.

### 10. STABILITY AND REACTIVITY

#### Reactivity

No statements available.

#### Reactions with water / air:

No statements available.

#### Ignition temperature:

##### Phenol

595 °C at 1,013 hPa

#### Burning number:

No statements available.



## SAFETY DATA SHEET

### RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

#### **Chemical stability**

No statements available.

#### **Thermal decomposition:**

No data available

#### **Dust explosion characteristic number:**

Not applicable

#### **Dust explosion class:**

Not applicable

#### **Impact sensitivity:**

No data available

#### **Hazardous reactions:**

No data available

#### **Explosive properties:**

No statements available.

#### **Possibility of hazardous reactions**

##### **deflagration ability:**

No statements available.

##### **Smoldering combustion:**

No statements available.

##### **Conditions to avoid**

No data available

##### **Minimum ignition energy:**

No data available

##### **Oxidizing properties:**

No statements available.

#### **Incompatible materials**

##### **Materials to avoid:**

Oxidizing agents

##### **Hazardous decomposition products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

---

## 11. TOXICOLOGICAL INFORMATION

### **Acute toxicity**

#### **Product:**

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

Acute inhalation toxicity : LC50: 2.16 mg/l  
Exposure time: 4 h



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

Test atmosphere: dust/mist/aerosol  
Assessment: No adverse effect has been observed in acute toxicity tests.  
Remarks: Under the conditions of the test no mortality caused.

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

### Components:

#### **Tetrachlorvinphos:**

Acute oral toxicity : LD50 (Rat): 480 mg/kg  
Assessment: The component/mixture is toxic after single ingestion.

Acute dermal toxicity : LD50 (Rabbit): > 2,500 mg/kg  
Assessment: The component/mixture is minimally toxic after single contact with skin.

#### **Phenol:**

Acute toxicity (other routes of administration) : LD0 (Rat): 650 mg/kg  
Application Route: subcutaneous

LD50 (Mouse): 112 mg/kg  
Application Route: intravenous

LD0 (Cat): 50 mg/kg  
Application Route: intravenous

LD0 (Rabbit): 180 mg/kg  
Application Route: intravenous

LD0 (Rabbit): 620 mg/kg  
Application Route: intraperitoneal

#### **dichlorvos:**

Acute oral toxicity : LD50 (Rat): 50 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.015 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist/aerosol

Acute dermal toxicity : LD50 (Rat): 107 mg/kg

### **Skin corrosion/irritation**

#### Product:

Result: Skin irritation

### Components:

#### **Phenol:**





# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

Species: Rabbit  
Result: Causes severe burns.

### **dichlorvos:**

Species: Rabbit  
Result: May irritate skin.

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

#### **Product:**

Result: Eye irritation

#### **Components:**

##### **Phenol:**

Species: Rabbit  
Result: Risk of serious damage to eyes.

##### **dichlorvos:**

Species: Rabbit  
Result: May irritate eyes.

### **Respiratory or skin sensitisation**

#### **Product:**

Remarks: May cause sensitisation of susceptible persons.

#### **Components:**

##### **Tetrachlorvinphos:**

Assessment: Harmful if swallowed., May be harmful in contact with skin.

##### **Phenol:**

Species: Guinea pig  
Result: Does not cause skin sensitisation.

##### **dichlorvos:**

Result: May cause an allergic skin reaction.

### **Germ cell mutagenicity**

#### **Components:**

##### **Phenol:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Result: positive

Germ cell mutagenicity - Assessment : Suspected of causing genetic defects.



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

### Carcinogenicity

#### IARC

No component 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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### STOT - repeated exposure

#### Components:

##### Phenol:

Assessment: May cause damage to organs through prolonged or repeated exposure.

#### Components:

##### Tetrachlorvinphos:

Repeated dose toxicity - Assessment : Harmful if swallowed., May be harmful in contact with skin.

---

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### Tetrachlorvinphos:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.5 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.002 mg/l  
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 100

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

##### Phenol:

Toxicity to fish : LC50 (Carassius auratus (goldfish)): 36 - 68 mg/l  
Exposure time: 96 h



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 56 mg/l  
Exposure time: 48 h

### dichlorvos:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 200 µg/l  
Exposure time: 96 h

LC50 (Leuciscus idus (Golden orfe)): 450 µg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): 0,19 µg/l  
Exposure time: 48 h

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

### Persistence and degradability

#### Components:

##### Phenol:

Biodegradability : Result: rapidly biodegradable  
Biodegradation: 85 %  
Exposure time: 14 d  
Method: OECD 301 C

Result: rapidly biodegradable  
Biodegradation: 100 %  
Exposure time: 6 d  
Method: OECD 302B

### Bioaccumulative potential

#### Components:

##### Tetrachlorvinphos:

Partition coefficient: n-octanol/water : log Pow: 3.53

##### Phenol:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.46

##### dichlorvos:

Partition coefficient: n-octanol/water : Pow: 1.9  
Method: OECD 123



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Additional ecological information : Do not allow to enter surface waters or groundwater.

---

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

---

## 14. TRANSPORT INFORMATION

Please note that limited quantities, consumer commodity regulations or other exemptions may apply.

### Land transport (CFR)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DICHLORVOS)  
**Hazard Class or Division:** 9  
**UN/NA Number** 3082  
**Packaging group** III  
**Hazard Label(s):** Class 9  
**Marine pollutant:** Marine pollutant

### Sea transport (IMDG)

**UN Number** 3082  
**Description of the goods** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)  
**Class** 9  
**Packaging group** III  
**IMDG-Labels** 9  
**EmS Number** F-A  
**Marine pollutant** yes

### Air transport (IATA)

**UN Number** 3082  
**Description of the goods** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)



SAFETY DATA SHEET

RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

<b>Class</b>	9
<b>Packaging group</b>	III
<b>Dangerous goods labels</b>	9
<b>Environmentally hazardous</b>	yes

15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phenol	108-95-2	1000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phenol	108-95-2	1000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
 Acute toxicity (any route of exposure)  
 Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Specific target organ toxicity (single or repeated exposure)

**SARA 302** :

Phenol	108-95-2	14 %
--------	----------	------

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

Phenol	108-95-2	14 %
--------	----------	------

US State Regulations

Massachusetts Right To Know

Phenol	108-95-2
--------	----------

Pennsylvania Right To Know

Phenol	108-95-2
--------	----------

New York City Hazardous Substances

Phenol	108-95-2
--------	----------

**California Prop. 65** , which is/are known to the State of California to cause cancer.  
 For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Tetrachlorvinphos	22248-79-9
-------------------	------------

California List of Hazardous Substances

Phenol	108-95-2
--------	----------



# SAFETY DATA SHEET

## RAVAP EC

Version 5.0

Revision Date 09/07/2017

122000008512  
Print Date 09/07/2017

### California Permissible Exposure Limits for Chemical Contaminants

Phenol 108-95-2

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

TSCA Not On TSCA Inventory  
Tetrachlorvinphos  
dichlorvos

### TSCA list

No substances are subject to a Significant New Use Rule.

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

---

## 16. OTHER INFORMATION

### Full text of H-Statements mentioned in chapters 2 and 3

H227	Combustible liquid.
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

### Further information

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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.