



## SAFETY DATA SHEET

122000008512

**RAVAP® EC**

Version 3.0

Revision Date 08/05/2014

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**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product information**

**Product Name:** RAVAP® EC  
**MSDS Number:** 122000008512

**Use** : Restricted Use Pesticide

**Company**

BAYER HEALTHCARE LLC  
Animal Health Division  
12707 Shawnee Mission Parkway  
(West 63rd)  
Shawnee, KS 66216-1846  
USA  
(800) 633-3796

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

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**2. HAZARDS IDENTIFICATION****Emergency Overview**

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**DANGER! Combustible Liquid, Do not pierce or burn, even after use. Do not spray on a naked flame, incandescent material and heated equipment., Corrosive** Colour: clear Form: liquid  
**Odour:** aromatic.


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.

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**GHS Classification:**

**Acute toxicity (Oral)** : Category 4  
**Eye irritation** : Category 2  
**Skin irritation** : Category 2  
**Skin sensitization** : Category 1  
**Germ cell mutagenicity** : Category 2  
**Specific target organ toxicity - repeated exposure** : Category 2

**GHS Label element:**

<b>Hazard pictograms</b>	:	
<b>Signal word</b>	:	Warning
<b>Hazard statements</b>	:	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H341 Suspected of causing genetic defects. H373 May cause damage to organs through prolonged or repeated exposure.
<b>Precautionary statements</b>	:	<b>Prevention:</b> P201 Obtain special instructions before use. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. P281 Use personal protective equipment as required. <b>Response:</b> P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Other hazards which do not result in classification:**

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

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Weight percent</b>	<b>Components</b>	<b>CAS-No.</b>
10 - 30%	Phenol	108-95-2

<b>Other Ingredients</b>		
<b>Weight percent</b>	<b>Components</b>	<b>CAS-No.</b>
23%	Tetrachlorvinphos	22248-79-9
5.3%	Dichlorvos	62-73-7

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**4. 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.

**Note to Physician:** This product is a cholinesterase inhibitor. If symptoms of cholinesterase inhibition are present, atropine sulfate by injection is antidotal. 2-PAM is also antidotal and may be administered, but only in conjunction with atropine. Product may cause aspiration pneumonia. Probable mucosal damage may contraindicate the use of gastric lavage.

**Contact Number:** Use the Bayer Emergency Number in Section 1

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## 5. FIREFIGHTING MEASURES

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

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

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

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

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

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment.

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

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

**Further Accidental Release Notes**      Keep away from/remove sources of ignition.

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**7. HANDLING AND STORAGE****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.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Phenol (108-95-2)**

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 5 ppm

US. ACGIH Threshold Limit Values

Skin designation: Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Recommended exposure limit (REL): 5 ppm, 19 mg/m<sup>3</sup>

US. NIOSH: Pocket Guide to Chemical Hazards

Ceiling Limit Value and Time Period (if specified): 15.6 ppm, 60 mg/m<sup>3</sup>  
(15-min)

US. NIOSH: Pocket Guide to Chemical Hazards

Skin designation: Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 5 ppm, 19 mg/m<sup>3</sup>

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Skin designation: Can be absorbed through the skin.

**Dichlorvos (62-73-7)**

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.1 mg/m<sup>3</sup> (Inhalable fraction and vapor.)

US. ACGIH Threshold Limit Values

Skin designation: (Inhalable fraction and vapor.)Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Recommended exposure limit (REL): 1 mg/m<sup>3</sup>

US. NIOSH: Pocket Guide to Chemical Hazards

Skin designation: Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 1 mg/m<sup>3</sup>

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Skin designation: Can be absorbed through the skin.

**Dichlorvos (62-73-7)**

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.1 mg/m<sup>3</sup> (Inhalable fraction and vapor.)

US. ACGIH Threshold Limit Values

Skin designation: (Inhalable fraction and vapor.)Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Recommended exposure limit (REL): 1 mg/m<sup>3</sup>

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Skin designation: Can be absorbed through the skin.  
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
PEL: 1 mg/m<sup>3</sup>  
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
Skin designation: Can be absorbed through the skin.

**Respiratory protection:**

Recommended Filter type: Organic vapor with prefilter

**Hand protection:**

Hand protection: protective gloves for chemicals made of  
butyl-rubber  
Neoprene  
PVC

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

**Eye protection:**

Safety glasses

**Other protective measures:**

Wear suitable protective equipment.

Please consult label for end-user requirements.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form:	liquid
Colour:	clear
Odour:	aromatic
Odour Threshold:	No applicable information is available
Melting point:	> 350 °F
Boiling point/boiling range:	No applicable information is available
Density:	1.055 g/cm <sup>3</sup>
Bulk density:	No applicable information is available
Vapour pressure:	No applicable information is available
Viscosity, dynamic:	No applicable information is available
Viscosity, kinematic:	No applicable information is available
Flow time:	No applicable information is available
Surface tension:	No applicable information is available
Miscibility with water:	No applicable information is available
Water solubility:	No applicable information is available
pH:	No applicable information is available
Relative density:	No applicable information is available
Partition coefficient:	No applicable information is available
Solubility(ies):	No applicable information is available
Flash point:	154.04 °F (67.8 °C)
Flammability (solid, gas):	No applicable information is available

ASTM D 93

Ignition temperature: No applicable information is available

Explosion limits: No applicable information is available

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## 10. STABILITY AND REACTIVITY

**Conditions to avoid:** no data available

**Materials to avoid:** Oxidizing agents

**Hazardous reactions:** no data available

**Thermal decomposition:**

no data available

**Hazardous decomposition products:**

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

**Oxidizing properties:**

No statements available.

**Impact Sensitivity:**

no data available

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## 11. TOXICOLOGICAL INFORMATION

**Acute oral toxicity:**

LD<sub>50</sub> rat : 500 mg/kg

**Acute inhalation toxicity:**

LC<sub>50</sub> 2.16 mg/l, 4 h

The substance or mixture has no acute inhalation toxicity  
Under the conditions of the test no mortality caused.

**Acute dermal toxicity:**

LD<sub>50</sub> rabbit: > 2,000 mg/kg

**Acute toxicity (other routes of administration):**

Phenol

LD<sub>0</sub> subcutaneous rat: 650 mg/kg

LD<sub>50</sub> intravenous mouse: 112 mg/kg

LD<sub>0</sub> intravenous cat: 50 mg/kg

LD<sub>0</sub> intravenous rabbit: 180 mg/kg

LD0 intraperitoneal rabbit: 620 mg/kg

**Skin irritation:**

Result: Skin irritation

**Eye irritation:**

Result: Eye irritation

**Sensitisation:**

May cause sensitization of susceptible persons.

**Genotoxicity in vitro:**

Phenol

Chromosome aberration test in vitro

Result: positive

**Pharmaceutic effects:**

Phenol

Antiseptic

**CMR Assessment:**

Phenol

Mutagenicity: Suspected of causing genetic defects.

**Carcinogenicity:**

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

**STOT - single exposure:**

no data available

**STOT - repeated exposure:****Components:****108-95-2 :**

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

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**12. ECOLOGICAL INFORMATION****General advice:**

Do not allow to enter surface waters or groundwater.

**Toxicity to fish:**

Phenol

LC50 8.9 mg/l

Test species: Oncorhynchus mykiss (rainbow trout) Duration of test: 96 h

Tetrachlorvinphos

LC50 0.5 mg/l

Test species: Lepomis macrochirus (Bluegill) Duration of test: 96 h

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Dichlorvos

LC50 200 µg/l

Test species: Oncorhynchus mykiss (rainbow trout) Duration of test: 96 h

LC50 450 µg/l

Test species: Leuciscus idus (Golden orfe) Duration of test: 96 h

**Toxicity to daphnia and other aquatic invertebrates:**

Phenol

EC50 9 mg/l

Test species: Daphnia magna (Water flea) Duration of test: 24 h

Tetrachlorvinphos

EC50 0.002 mg/l

Test species: Daphnia magna (Water flea) Duration of test: 48 h

Dichlorvos

LC50 19 µg/l

Test species: Daphnia Duration of test: 48 h

**Toxicity to algae:**

Phenol

IC50 150 mg/l

tested on: Pseudokirchneriella subcapitata (green algae) Duration of test: 96 h

Method: OECD Test Guideline 201

**Toxicity to bacteria:**

Phenol

EC50 766 mg/l

tested on: activated sludge micro-organism

Duration of test: 3 h

**Biodegradability:**

Phenol

85 %, 14 d rapidly biodegradable

Method: OECD Test Guideline 301C

100 %, 6 d rapidly biodegradable

Method: OECD 302B

**Bioaccumulation:**

Phenol

yes, Bioaccumulation is unlikely.

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**13. DISPOSAL CONSIDERATIONS**

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)



Waste disposal should be in accordance with existing federal, state and local environmental control laws.

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#### 14. TRANSPORT INFORMATION

*Please note the classifications shown are for bulk shipments. Limited quantities 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:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** Class 9  
**Marine Pollutant:** Marine pollutant

##### US Sea transport (IMDG)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DICHLORVOS)  
**Hazard Class or Division:** 9  
**UN number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

##### US Air transport (ICAO / IATA cargo aircraft only)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DICHLORVOS)  
**Hazard Class or Division:** 9  
**UN/ID Number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

##### US Air transport (ICAO / IATA passenger and cargo aircraft)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DICHLORVOS)  
**Hazard Class or Division:** 9  
**UN/ID Number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

##### International IATA

**UN Number:** 3082  
**Description of the goods:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)  
**Class:** 9  
**Packaging group:** III  
**Dangerous goods labels:** 9  
**Environmentally hazardous:** yes

**International IMDG**

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

**15. REGULATORY INFORMATION**

**Other regulations:** No statements available.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

**Components**

Dichlorvos  
Phenol

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required**

**Components**

Dichlorvos  
Phenol

**US. EPA CERCLA Hazardous Substances (40 CFR 302) Components**

Dichlorvos Reportable quantity: 10 lbs  
Phenol Reportable quantity: 1000 lbs

**Marine Pollutant Components**

Dichlorvos Severe marine pollutant.

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists**

Weight percent	Components	CAS-No.
3 - 7%	Dichlorvos	62-73-7
10 - 30%	Phenol	108-95-2

**New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists**

Weight percent	Components	CAS-No.
3 - 7%	Dichlorvos	62-73-7

10 - 30%

Phenol

108-95-2

**California Prop. 65**

**To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.**

**OSHA Hazcom Standard Rating**Hazardous

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**16. OTHER INFORMATION**

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.