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

Product information RAVAP EC SPRAY 1 GAL

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

2. HAZARDS IDENTIFICATION

Emergency Overview

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.

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:

Hazard pictograms :

Signal word : Warning

Hazard statements : 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.

Precautionary statements : **Prevention:**
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.
Response:
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.

Hazard Communication (29CFR 1910.1200)

Acute Eye Hazards Corrosive - causes irreversible eye damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Weight percent	Components	CAS-No.
10 - 30%	Phenol	108-95-2

Other Ingredients

Weight percent	Components	CAS-No.
23%	Tetrachlorvinphos	22248-79-9
5.3%	Dichlorvos	62-73-7

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.

Most important symptoms and effects, both acute and delayed	:	No information available. No information available.
Notes to physician	:	No information available.

Contact Number: Use the Bayer Emergency Number in Section 1

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 (CO2)

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.

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 Keep away from/remove sources of ignition.

Release Notes

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.

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/m3
US. NIOSH: Pocket Guide to Chemical Hazards
Ceiling Limit Value and Time Period (if specified): 15.6 ppm, 60 mg/m3 (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/m3
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/m3 (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/m3
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/m3
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/m3 (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/m3
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/m3
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.

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/cm³
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)	ASTM D 93
Flammability (solid, gas):	No applicable information is available	
Ignition temperature:	No applicable information is available	
Explosion limits:	No applicable information is available	

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 (CO2)

Oxidizing properties:

No statements available.

Impact Sensitivity:
no data available

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:
LD50 rat : 500 mg/kg

Acute inhalation toxicity:
LC50 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:
LD50 rabbit: > 2,000 mg/kg

Acute toxicity (other routes of administration):
Phenol
LD50 intravenous mouse: 112 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: positve

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

STOT - single exposure:
no data available

STOT - repeated exposure:
no data available

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

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
Method: OECD TG 301 C
Readily biodegradable, according to appropriate OECD test.

100 %, 6 d
Method: OECD TG 302 B

Bioaccumulation:
Phenol

yes, Bioaccumulation is unlikely.

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.

14. TRANSPORT INFORMATION

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

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

15. REGULATORY INFORMATION

Other regulations: No statements available.
Reportable Quantity 85.6 kg

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 PollutantComponents

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

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.