

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

SECTION 1. IDENTIFICATION

Product information

Product Name : RAVAP EC
SDS Number : 122000008512

Use : Restricted Use Pesticide

Company

Elanco US Inc.
2500 Innovation Way
Greenfield, IN 46140
USA
+1-877-Elanco1(+1-877-3526261)
elanco_sds@elanco.com


In case of emergency: CHEMTREC International: +1 703-527-3887 (24 hours)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 4
Acute toxicity (Oral) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Specific target organ toxicity : Category 2
- repeated exposure

GHS label elements

Hazard pictograms : 

Signal word : 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:**
P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

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.

Other hazards

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Tetrachlorvinphos	22248-79-9	23
Phenol	108-95-2	14
Dichlorvos (ISO)	62-73-7	5,3

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : Not an expected entry route.

In case of skin contact : If skin reactions occur, contact a physician.

In case of eye contact : Flush eyes with water as a precaution.

If swallowed : In case of accidental ingestion, contact your regional poison center or physician immediately.

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

Notes to physician : No information available.

SECTION 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 fire-fighting : Fire may cause evolution of: Carbon monoxide (CO)

RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Carbon dioxide (CO₂)

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

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Keep away from heat and sources of ignition.

Methods and materials for containment and 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.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Take measures to prevent the build up of electrostatic charge.
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol.
Use with local exhaust ventilation.
Avoid contact with skin, eyes and clothing.

SECTION 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	ACGIH
		TWA	5 ppm 19 mg/m ³	NIOSH REL
		TWA	5 ppm 19 mg/m ³	NIOSH REL
		C	15,6 ppm 60 mg/m ³	NIOSH REL
		C	15,6 ppm 60 mg/m ³	NIOSH REL
		TWA	5 ppm 19 mg/m ³	OSHA Z-1
		TWA	5 ppm 19 mg/m ³	OSHA Z-1
		TWA	5 ppm 19 mg/m ³	OSHA P0
		TWA	5 ppm	OSHA P0

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
 Date of first issue: 23.06.2020

			19 mg/m ³	
Dichlorvos (ISO)	62-73-7	TWA (Inhalable fraction and vapor)	0,1 mg/m ³	ACGIH
		TWA (Inhalable fraction and vapor)	0,1 mg/m ³	ACGIH
		TWA	1 mg/m ³	NIOSH REL
		TWA	1 mg/m ³	NIOSH REL
		TWA	1 mg/m ³	OSHA Z-1
		TWA	1 mg/m ³	OSHA Z-1
		TWA	1 mg/m ³	OSHA P0
		TWA	1 mg/m ³	OSHA P0

Biological occupational exposure limits

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

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Colour : clear
Odour : aromatic
Melting point / range : > 350 °F / > 177 °C
Flash point : 154,0 °F / 67,8 °C
Method: ASTM D 93
Density : 1,055 g/cm³
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Explosive properties : No statements available.
Oxidizing properties : No data available
Impact sensitivity : No data available
Minimum ignition energy : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No data available
Chemical stability : No data available
Possibility of hazardous reactions : No data available
Conditions to avoid : No data available
Incompatible materials : Oxidizing agents
Hazardous decomposition products : Carbon monoxide (CO)
Carbon dioxide (CO₂)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

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

Acute inhalation toxicity : LC50: 2,16 mg/l
Exposure time: 4 h
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

Acute dermal toxicity : LD50 (Rabbit): > 2.500 mg/kg
Assessment: The component/mixture is minimally toxic after single contact with skin.

Phenol:

Acute oral toxicity : LD50 (Rat, male and female): 340 mg/kg
Method: OECD 401

(Human): Method: Expert judgement
Assessment: The component/mixture is toxic after single ingestion.

Acute dermal toxicity : LD50 (Rat): 669 mg/kg

Acute toxicity (other routes of administration) : LD50 (Mouse): 112 mg/kg
Application Route: intravenous

Dichlorvos (ISO):

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:

Species : Rabbit
Result : Causes severe burns.

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Species : human epidermis model test (in vitro)
Method : OECD 431
Result : Corrosive after 3 minutes to 1 hour of exposure

Dichlorvos (ISO):

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.
Method : OECD 405
Remarks : May cause irreversible eye damage.

Dichlorvos (ISO):

Species : Rabbit
Result : May irritate eyes.

Respiratory or skin sensitisation

Product:

Remarks : May cause sensitisation of susceptible persons.

Components:

Phenol:

Test Type : Buehler Test
Species : Guinea pig
Method : OECD 406
Result : Does not cause skin sensitisation.

Dichlorvos (ISO):

Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

Phenol:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Hamster ovary-cells
Metabolic activation: yes

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Method: OECD 473
Result: positive
Remarks: Evidence of a cytotoxic effect.

Test Type: Chromosome aberration test in vitro
Test system: Hamster ovary-cells
Metabolic activation: no
Method: OECD 473
Result: negative

Test Type: Micronucleus test
Test system: Hamster ovary-cells
Metabolic activation: with and without metabolic activation
Method: OECD 487
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow erythrocytes
Application Route: Intraperitoneal
Method: OECD 474
Result: positive

Carcinogenicity

Components:

Phenol:

Species : Rat
Application Route : Oral
Method : OECD 451
Result : Animal testing did not show any carcinogenic effects.

IARC Group 2B: Possibly carcinogenic to humans
Dichlorvos (ISO) 62-73-7
Group 2B: Possibly carcinogenic to humans
Dichlorvos (ISO) 62-73-7

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.

Reproductive toxicity

Components:

Phenol:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: NOAEL: 71 - 93 mg/kg body weight
General Toxicity F1: NOAEL: 71 - 94 mg/kg body weight
General Toxicity F2: NOAEL: 71 - 93 mg/kg body weight

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Method: OECD 416

Effects on foetal development : Species: Mouse
Application Route: Oral
General Toxicity Maternal: NOAEL: 140 mg/kg body weight
Teratogenicity: NOAEL: 140 mg/kg body weight
Method: OECD 414

STOT - repeated exposure

Components:

Phenol:

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

Repeated dose toxicity

Components:

Phenol:

Species : Rabbit
NOAEL : 130 mg/kg
LOAEL : 260 mg/kg
Application Route : Dermal
Exposure time : 20 days 5 h
Number of exposures : 5 days per week

Further information

Components:

Phenol:

Pharmaceutic effects
Remarks : Antiseptic

SECTION 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

Phenol:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 21,93 mg/l
Exposure time: 14 d

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

- Test Type: Long term fish toxicity
Analytical monitoring: no
Method: OECD 204
GLP: yes
Remarks: Nominal concentration
- NOEC (Poecilia reticulata (guppy)): 4 mg/l
Exposure time: 14 d
Test Type: Long term fish toxicity
Analytical monitoring: no
Method: OECD 204
GLP: yes
Remarks: Nominal concentration
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3,1 mg/l
Exposure time: 48 h
Test Type: Immobilization
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 61,1 mg/l
Exposure time: 96 h
Test Type: Cell multiplication inhibition test
Method: US-EPA
Remarks: Nominal concentration
- Toxicity to fish (Chronic toxicity) : NOEC (Cirrhinus mrigala): 0,077 mg/l
Exposure time: 60 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 16 d
Test Type: Reproductive toxicity
Remarks: Nominal concentration
- Toxicity to soil dwelling organisms : Test Type: laboratory study
LC50 (Eisenia fetida (earthworms)): 401 mg/kg
Exposure time: 14 d
End point: mortality
Method: OECD 207
Remarks: Nominal concentration
- Toxicity to terrestrial organisms : LC50 (Agelaius phoeniceus (red-wing blackbird)): > 113 mg/kg
Exposure time: 18 h
End point: mortality
- Dichlorvos (ISO):**
- 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

RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Persistence and degradability**Components:****Phenol:**

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

Bioaccumulative potential**Components:****Tetrachlorvinphos:**

Partition coefficient: n-octanol/water : log Pow: 3,53

Phenol:

Bioaccumulation : Species: Pimephales promelas (fathead minnow)
Bioconcentration factor (BCF): 17,5
Exposure time: 5 h
Temperature: 77 °F / 25 °C
Concentration: 2 mg/l
Method: OECD 305
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1,46 (86 °F / 30 °C)
pH: 3 - 8

Dichlorvos (ISO):

Partition coefficient: n-octanol/water : Pow: 1,9
Method: OECD 123

Mobility in soil

No data available

Other adverse effects**Product:**

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

Components:**Phenol:**

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

RAVAP EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06/23/2020	122000008512	Date of first issue: 23.06.2020

SECTION 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)

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No. : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)
 Class : 9
 Packing group : III
 Labels : 9
 Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)
 Class : 9
 Packing group : III
 Labels : 9
 EmS Code : F-A, S-F
 Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

UN/ID/NA number : NA 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DICHLORVOS)
 Class : 9
 Packing group : III
 Labels : Class 9
 Marine pollutant : yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 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	*
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 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Phenol	108-95-2	10000

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 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
Dichlorvos (ISO) 62-73-7

Pennsylvania Right To Know

Phenol 108-95-2
Dichlorvos (ISO) 62-73-7

New York City Hazardous Substances

Phenol 108-95-2
Dichlorvos (ISO) 62-73-7

California List of Hazardous Substances

Phenol 108-95-2
Dichlorvos (ISO) 62-73-7

California Permissible Exposure Limits for Chemical Contaminants

Phenol 108-95-2
Dichlorvos (ISO) 62-73-7

SAFETY DATA SHEET



RAVAP EC

Version 1.0 Revision Date: 06/23/2020 SDS Number: 122000008512 Date of last issue: -
Date of first issue: 23.06.2020

International Regulations

Montreal Protocol (Ozone Depleting Substances) : Not applicable
Rotterdam Convention (Prior Informed Consent) : Not applicable
Stockholm Convention (Persistent Organic Pollutants) : Not applicable

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

TSCA : Not On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

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

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
1910.1000
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-
its for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour
workday during a 40-hour workweek
NIOSH REL / C : Ceiling value not be exceeded at any time.
OSHA P0 / TWA : 8-hour time weighted average
OSHA Z-1 / TWA : 8-hour time weighted average

Revision Date : 06/23/2020

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.

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