

MATERIAL SAFETY DATA SHEET**BRAND NAME: PERTAG 500 EC****GENERIC NAME: PERMETHRIN 50% EC**

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Identification of the substance	:	PERTAG 500 EC (Permethrin 50% EC)
Use of the substance	:	Insecticide
Manufacturer/supplier	:	Tagros Chemicals India Private Limited
Address	:	"Tagros House", 4 th Floor, No. 4 (Old. 10), Club house road, Anna Salai, Chennai 600002 Tamilnadu, India.
Emergency telephone number	:	+91-44-42007400
Fax number	:	+91-44-28587873
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2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: EMERGENCY OVERVIEW

Eyes	:	Mild irritant to rabbit eyes. Avoid contact with eyes.
Skin	:	Harmful if absorbed through skin. Do not get on skin or clothing.
Ingestion	:	Harmful if swallowed.
Inhalation	:	Harmful if inhaled. Avoid inhalation of vapour or mist.
Environment	:	Dangerous for the environment. Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	EC No.	Classification	Con. % w/v
Permethrin (ISO) 3-phenoxybenzyl (1 <i>RS</i> ,3 <i>RS</i> ;1 <i>RS</i> ,3 <i>SR</i>)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate	52645-53-1	258-067-9	Xn; R20/22 R43 N; R50-53	50.00
Others	----	---	---	50.00

4. FIRST AID MEASURES

Contact with eyes	: Rinse immediately with plenty of water keeping eyelids open. Seek medical advice and show the container or this material safety data sheet.
Contact with skin	: Carefully remove contaminated clothing. Wash affected area with soap and water. Seek medical aid if required.
Ingestion	: If the material was swallowed and signs of toxicity are severe, induce vomiting. Keep the person calm and comfortable and obtain medical assistance as soon as possible.
Inhalation	: If inhaled, remove to fresh air and keep at rest. Obtain medical aid if required.

5. FIRE FIGHTING MEASURES

Flash point	: 63°C
Extinguishing media	: If product is involved in a fire, use water spray, foam, dry powder, carbon dioxide or sand. Keep nearby containers and equipment cool with a water stream.
Special exposure hazards	: In the event of fire, hydrogen chloride, carbon monoxide and carbon dioxide may be released.
Protective equipment for fire-fighting	: Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Fire fighting guidance	: Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire

fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

: Avoid contact with spilled material or contaminated surfaces. If ordinary clothing becomes contaminated remove it immediately. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing as detailed in section 8.

Environmental precautions

: Keep people and animals away. Prevent entry into drains, sewers and watercourses.

Methods for cleaning up

: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

7. HANDLING AND STORAGE

Handling

: Wear chemically impervious gloves such as neoprene or nitrile. Wear safety glasses, goggles or face shield. Mechanical ventilation should be used when handling this product in enclosed spaces. Read and observe all precautions and instructions on the label.

Storage

: Store in original containers, upright and closed. Store in areas that are cool, dry and well ventilated. Store away from seeds, fertilizers and animal feed stuff.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit value	: ADI: 0.05 mg/kg bw (JMPR 1999)
Engineering controls	: Mechanical ventilation should be used when handling this product in closed spaces.
Respiratory protection	: When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations.
Hand protection	: Wear chemical resistant nitrile gloves.
Eye protection	: Wear safety goggles with imperforated side shield and face shield.
Skin protection	: Avoid contact with skin. Wear apron, boots and full protective suit.
Environmental exposure controls	: Keep away from food, drink and animal feed stuff. This material and its container must be disposed off as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Clear Liquid
Color	: Pale Yellow
Odour	: Aromatic
Molecular Weight	: 391.3 (Permethrin)
pH	: 5.19
Flash point	: 63°C
Solubility in water	: Emulsify in water
Octanol/water partition coefficient	: $\log P_{OW} = 5.9$ at 20 °C at pH 7 (Permethrin)

10. STABILITY AND REACTIVITY

Stability	: Stable for two years at ambient conditions.
Conditions to avoid	: Avoid excessive heat and flame
Materials to avoid	: None under normal condition of use
Incompatibility	: Oxidizing & alkaline materials.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	
Rat LD₅₀ oral, Rats	: >300-2000 mg/kg bw
Rat LD₅₀ dermal, Rats	: >2000 mg/kg bw
Rat LC₅₀ inhalation, Rats	: >0.45 mg/l
Skin irritation	: Slightly irritant to skin of rabbit
Eye irritation	: Slight irritant to rabbit eye
Skin sensitization	: Non-sensitizer to skin of Guinea pigs
Long term studies	
Carcinogenicity	: Non-carcinogenic in rats
Mutagenicity	: Non-mutagenic
Reproductive toxicity	: Not a reprotoxic in rats.
Teratogenicity toxicity	: Non-teratogenic effects in rats.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Guppy, *Poecilia reticulata*, 96 hours : LC₅₀ : 8.9 µg/l (Permethrin)

Common Carp, *Cyprinus carpio*, 96 hours : LC₅₀ : 0.145 mg/l (Permethrin)

***Daphnia magna*, 24 hours** : EC₅₀: 0.32 µg/l (Permethrin)

***Scenedesmus subspicatus*, 72 hours** : EC₅₀: >0.022 mg/l (Permethrin)

Activated sewage sludge, 3 hours : EC₅₀: >1000 mg/l (Permethrin)

Acute toxicity Earthworm, *Lampito mauritii* : LC₅₀ >1200 mg/kg (Permethrin)

Mobility : Strongly adsorbed in soil particles with no risk of leaching.

Persistence and degradability : Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. DT₅₀ pH 4 at 25°C: > 1 year (water).

13. DISPOSAL CONSIDERATIONS

Product disposal : Do not empty into drains or waterways. Disposal of product would usually be by incineration in an appropriate licensed commercial incinerator. Advice may be obtained from local waste regulation authorities.

Container disposal : Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

14. TRANSPORT INFORMATION

UN number	: 3351
UN class	: 6.1
UN packaging group	: III
Proper Shipping Name	: PYRETHROID PESTICIDE LIQUID, TOXIC, FLAMMABLE N.O.S
Additional information	: Permethrin designated as marine pollutant

15. REGULATORY INFORMATION

Classification	: Xn: Harmful N: Dangerous for the environment
Risk Phrases	: R10: Flammable R20/22: Harmful by inhalation and if swallowed. R50/53: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.
Safety Phrases	: S2: Keep out of the reach of children. S13: Keep away from food, drink and animal feed stuffs S24/24: Avoid contact with skin and eyes. S36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S60: This material and its container must be disposed off as hazardous waste. S61: Avoid release to the environment. Refer to special instructions/safety data sheets.
Reference regulation	: Regulation (EC) No 1907/2006

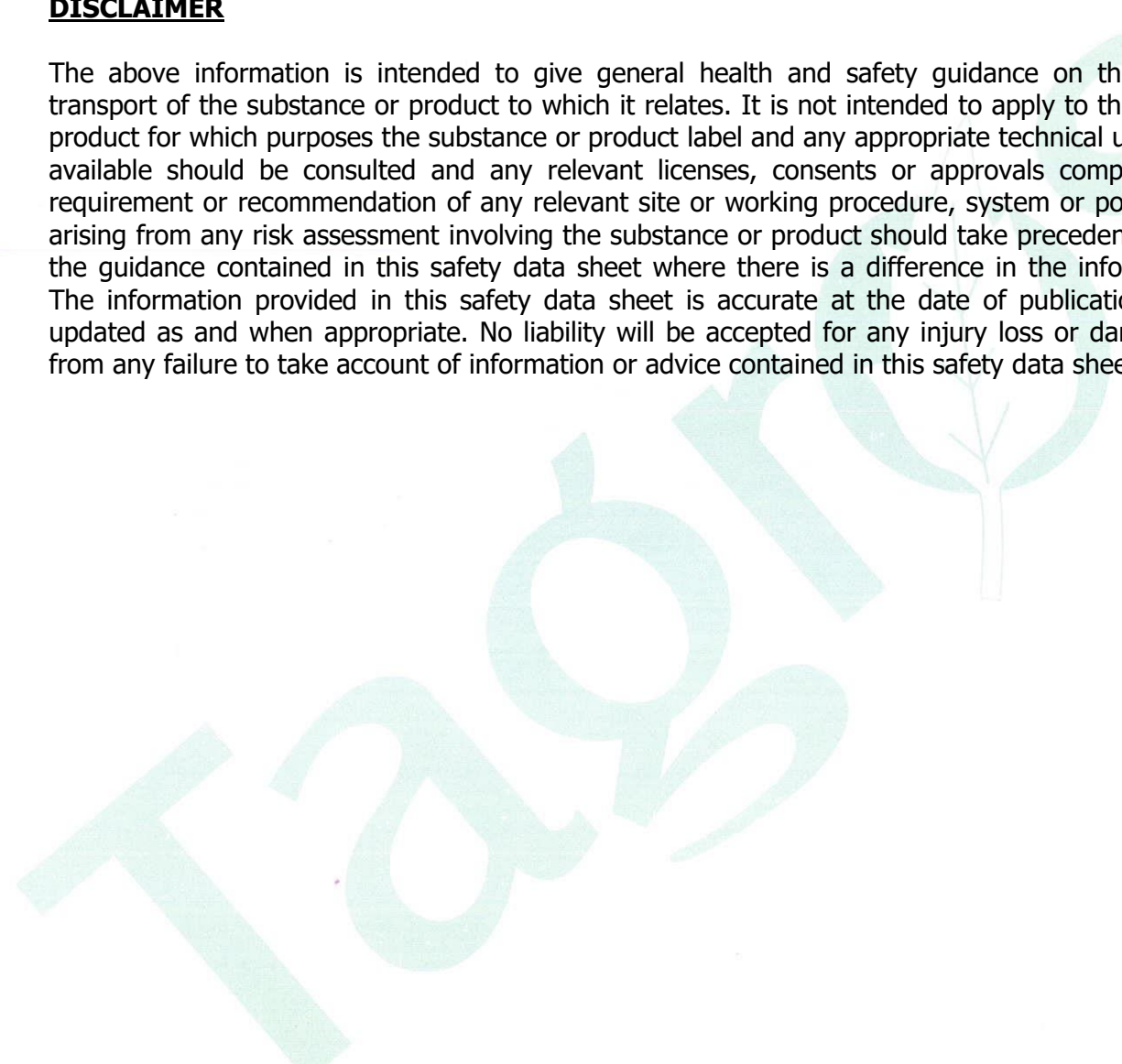
16. OTHER INFORMATION

MSDS first issued : 18th June 2002

MSDS data revised : 03rd August 2022

DISCLAIMER

The above information is intended to give general health and safety guidance on the storage and transport of the substance or product to which it relates. It is not intended to apply to the substance or product for which purposes the substance or product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with. The requirement or recommendation of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted for any injury loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

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