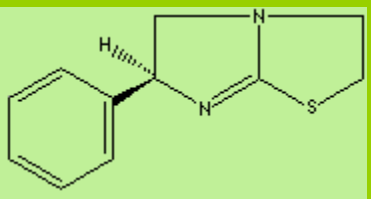
LEVAMISOLE HYDROCHLORIDE



PRODUCT IDENTIFICATION	
CAS NO.	14769-73-4 (Base) 16595-80-5 (Hydrochloride)
EINECS NO.	238-836-5, 240-654-6
FORMULA	$C_{11}H_{12}N_2S \cdot HCl$
MOL WT.	240.75
H.S. CODE	
TOXICITY	
SYNONYMS	(-)-Tetramisole hydrochloride; L(-)-2,3,5,6-Tetrahydro-6-phenylimidazo(2,1-b)thiazole hydrochloride; (S)-(-)-6-Phenyl-2,3,5,6-tetrahydroimidazo[2,1-b]thiazole hydrochloride;
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	white to off-white crystalline powder
MELTING POINT	230 - 233 C
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	Soluble
pH	3.0 - 4.5 (5% aq. solution)
VAPOR DENSITY	
REFRACTIVE INDEX	
NFPA RATINGS	
AUTOIGNITION	
FLASH POINT	
STABILITY	Stable under ordinary conditions. Light sensitive.

APPLICATIONS

Levamisole, the active levo-form of tetramisole, is used as an anthelmintic in the treatment of many nematodes particularly in veterinary applications. It is also an immunomodulator as an adjunct with fluorouracil to make it work better against cancer of the colon following surgical resection of the primary tumor. Chemical designation is (L)-2,3,5, 6-tetrahydro-6-phenylimidazo [2,1-b] thiazole. The hydrochloride salt of levamisole is a white crystalline powder with odorless; soluble in water and methanol; slightly soluble in ethanol and methylene chloride; insoluble in ether; stable in acid aqueous media but hydrolyzes in alkaline (or neutral) solutions.

Anthelmintic (also spelled anthelminthic) is a chemical substance used to expel or destroy tapeworms in domestic animals. Some common anthelmintic active ingredients classified by chemical structure include;

- Benzimidazoles
  - Albendazole (CAS #: 54965-21-8)
  - Fenbendazole (CAS #: 43210-67-9)
  - Mebendazole (CAS #: 31431-39-7)
  - Oxfendazole (CAS #: 53716-50-0)
  - Oxibendazole ((CAS #: 20559-55-1)
  - Triclabendazole (CAS #: 68786-66-3)

- Diphenylsulfides
  - Bithionol (CAS #:97-18-7)
  - Febantel (CAS #: 58306-30-2)
- Hexahydropyrazines
  - Diethylcarbamazine (CAS #: 90-89-1)
  - Piperazine (CAS #: 110-85-0)
  - Praziquantel (CAS #: 55268-74-1)
- Imidazothiazoles
  - Levamisole (CAS #: 14769-73-4)
  - Tetramisol (CAS #: 5036-02-2)
- Macrocylic Lactones
  - Abamectin (CAS #: 71751-41-2)
  - Doramectin (CAS #: 117704-25-3)
  - Eprinomectin (CAS #: 123997-26-2)
    - Eprinomectin B_{1a} (CAS#: 133305-88-1)
    - Eprinomectin B_{1b} (CAS #: 133305-89-2)
  - Ivermectin (CAS #: 70288-86-7)
    - Ivermectin B_{1a} (CAS #: 70161-11-4)
    - Ivermectin B_{1b} (CAS #: 70209-81-3)
  - Moxidectin (CAS #: 113507-06-5)
- Salicylanilide
  - Closantel (CAS #: 57808-65-8)
  - Niclosamide Base (CAS #: 50-65-7)
    - Niclosamide Monohydrate (CAS #: 7336-56-2)
    - Niclosamide Ethanolamine salt (CAS #: 1420-04-8)
    - Niclosamide Piperazine salt (CAS #: 34892-17-6)
  - Oxyclozanide (CAS #: 2277-92-1)
  - Rafoxanide (CAS #: 22662-39-1)
- Tetrahydropyrimidines
  - Morantel (CAS #: 20574-50-9)
  - Pytrantel Pamoate (CAS #: 22204-24-6)
- Others
  - Clorsulon (CAS #: 60200-06-8)
  - Nitroxinil (CAS #: 1689-89-0)

SALES SPECIFICATION	
APPEARANCE	white to off-white crystalline powder
ASSAY	98.5 - 101.0%
OPTICAL ROTATION	-121±2° (C=0.9 in water
HEAVY METALS	20ppm max
SULFATED ASH	0.1% max
LOSS ON DRYING	0.5% max
CHLORIDE	0.1% max
TRANSPORTATION	
PACKING	25kgs in drum
HAZARD CLASS	6.1 (Packing Group: III)
UN NO.	2811
OTHER INFORMATION	
Hazard Symbols: T, Risk Phrases: 25, Safety Phrases: 36/37/39-45	