



Cut out the **TERMITES** from your Life



IS : 8944



CM/L-8118265

SAFE
&
SECURE

COMBATING TERMITES!

Termites pose the greatest threat to timber, buildings and all structures throughout the world. They bore galleries in wood and forage for food. In many structures, damage is not only limited to timber but also to wall covering or building contents made of cellulose. Though they have no food value, the termites chew these materials to reach wood and allied cellulose materials. Breaking contact between the soil and wood content of the building is the primary method of combating termites.

TERMITE THE INVISIBLE ENEMY

Termites, also popularly known as white ants are tough, well organized, social, most persistent and destructive tiny insects, which live in large colonies.

These are three casts: reproductives, workers and soldiers. Reproductive forms have two pairs of equal wings and one pair of compound eyes. Workers and soldiers are blind, sexless, wingless and have thin cuticles that are susceptible to desiccation in dry or exposed environments.

According to habits two groups:

Subterranean or ground nesting, builds nest in soil

Non-subterranean or wood nesting termites, live in wood, with no-contact with soil.

1) Damp - wood termites.

2) Dry wood termites.

DISTRIBUTION

Tropical, Subtropical and rarely Temperate Regions (45-48° N to 45° S). Worldwide, 2300 species are described so far and in India 300 species are described. The most important genus is *odonotermes*. The subterranean termites are most destructive and are mainly responsible for the damage caused in buildings.

Subterranean termites enter buildings unobserved from below and ground, perforating the foundation and spread to upper levels through joints, floors, walls cavities etc.

They penetrate tiny cracks in concrete and build covered runways which are made of soil and which enable them to traverse hard to poke materials and provide them with lines of communication between their nest and target.

In case of composite and masonry, foundations, they move through inner spaces of brick and stone work. They penetrate the concrete slab-in-grade constructions also. Even the RCC columns and beams cannot resist termites entries. Steel used in RCC rusts during curing periods. Iron expands to three times of its actual dimension during rusting and this provides excellent tunnels for termites seeking entry in upper floors. In some cases the termites even crack beams to get to the wooden plank of the roof.

TERMITE DETECTION

Being hidden, termites infestation often escapes undetected in buildings until the mischief has been done and the infestation greatly advanced.

In the advanced stages a beam, a lintel or a door frame is eaten hollow, leaving only a thin but outwardly unaffected covering.

Evidence of the presence of termites can be:

- Presence of discarded wings is a positive indication of an established colony.
- Wood borers push particles & powdery mass outside, pellets of excreta.
- Subterranean termites are identified from earthen runways (shelter tubes).
- Hollow sound on tapping structure timber.

CHLORPYRIPHOS IN COMPARISON WITH OTHER TERMITICIDES

Potential termiticides identified so far:

- Chlorpyrifos.
- Aldrin-Banned in India w.e.f January, 1994.
- Dieldrin- Restricted for locust control in India.
- Chlordane- Banned in India.
- Heptachlor-Banned in India.
- Permethrin.

Reason for banning above chlorinated hydrocarbons:

- Persistence.
- Bioaccumulation.
- Carcinogenicity.

Presently available termiticides and advantages of chlorpyrifos

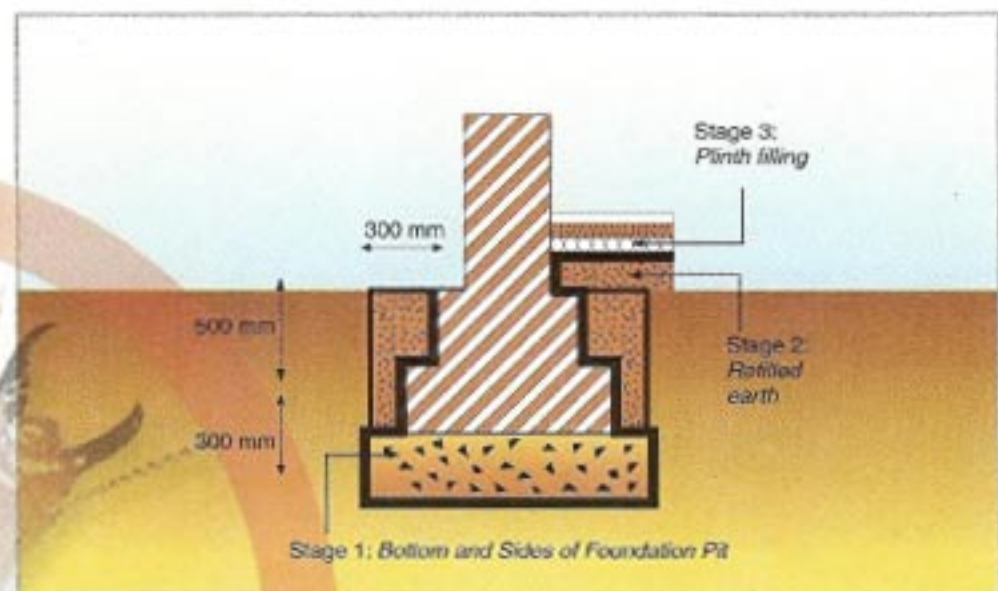
- Chlorpyrifos
- it is a stomach and contact poison with a long residual life in soil and short on foliage.
- Their toxicity on mammals is moderate. Free from health risks when correctly applied to the soil under buildings
- The degradation products of chlorpyrifos, which contains 3,5,6, - Trichloro-2-pyridinol is less harmful to mammals.
- Treating the soil beneath the building and around the foundation with a soil insecticides is a good preventive measure.
- Trishule TC has the same active ingredient used in flea sprays and crawling insect sprays in houses, hospitals, nursing homes and restaurants. So it can be used in and around a house, without causing concern for family and pets.

TRISUL-WITH WORLD PROVEN CHLORPYRIPHOS FORMULATION

TRISUL Chlorpyrifos, 20% EC (introduced in the year 1995) is the only safe alternative to Aldrin, Heptachlor and chlordane, the chemical banned by the Govt. of India. Studies conducted in the USA have certified 100% effectiveness at just 1% concentration for up to 20 years. Field test in Japan too have confirmed Chlorpyrifos to have the highest toxicity to termiticides, while the National Academy of Sciences, USA, has reported chlorpyrifos to be free from health risks. The active ingredient of TRISUL, Chlorpyrifos, is a chemical approved for pre and post construction termite control by central & insecticides Board, Govt. of India is the only chemical recommended by Bureau of Indian standards (IS 6313- 1981- part II & III) it is also recommended by C.B.R.I. Roorkee, a premier research institute for Building Construction, leading Consultants & architects for termite control in buildings, Forestry, agriculture and wood preservation. 1% a.i concentration in non-alkaline glue mix has been found very effective to prevent attack in plywood boards.

PRE CONSTRUCTION TREATMENT

- Foundation pits to be treated at the bottom and sides to a height of 30 cms. At the rate of 5 litres of 1% emulsion per square meter. (stage 1)
- Built up walls to be treated on the both sides at a rate of 7.5 litres of 1% emulsion per square meter. (stage 2)
- Before laying the floor, the plinth wall to be treated at the rate of 5 litres of 1% emulsion per square meter. Whenever pipes and conduits enter the soil inside the area of foundations, loosen the soil for a distance of 150 mm and to a depth of 75 mm and thoroughly drench with TRISUL 20% EC. (stage 3)
- After completion of building, the earth along the external perimeter of building at 7.5 litres of 1% emulsion.



POST CONSTRUCTION

- Thorough inspection of the building should be made before undertaking any treatment.
- Inject 7.5 litres of 1% emulsion per square meter in the soil. Inside the building, drill holes in the floor slab to a depth of 40 cm. And 30 cms. Apart, inject with TRISUL and seal after drying. Similar treatment required at the junction of floor and wall near window and door frames with the help of 12 mm. Diameter mild steel rod reaching the soil below.

TREATMENT OF WALL & ROOF

- Spray TRISUL solution @ 1 litre per square meter on the internal masonry surface wood work and close the room for one hour.

TREATMENT OF WOODWORK

- Replace the wood work if it is damaged beyond repair.
- New timber should be dipped overnight in 20 litre of kerosene/ tpt oil mixed with 1 litre of chemical as this process will ensure deep penetration and better protection against wood boring insects such as Powder Post Beetles.
- For existing wood work, drill 3 mm diameter holes with a downward slant to the contact point of wood work with masonry. Chemical mixed with kerosene oil should be infused liberally at this junction. Repeat application twice after drying.

MOUND TREATMENT

Pour Trisul solution into the mounds as per the dosages detailed. It is important to first make two or three holes in the mound and pour the solution in these holes.

Mound Height (cm) **Dosage of Insecticides (litrs)**

91	4.5
122	23.0
152	45.0
183	82.0
213	123.0

WOODEN SURFACE

As a precautionary measure, soak the wood in 1% solution in kerosene/ TPT oil or spray the solution at the rate of 200ml. Per sq. mt. If affected by termites, remove the paint with sand paper and apply the solution at the rate of 200ml. per sq.mt.

TRISUL 20% EC FOR FOREST, NURSERY AND TREES

Prepare 0.3% (active ingredients) solution of TRISUL, mix with soil at the rate of 50 litres. Of solution per cubic meter of soil. For planting nursery plants, use rotary drum to mix the soil and solution properly. Alternatively, drench the soil in polythene bags with the solution at the rate of 1 litre of solution per 20 polythene bags of normal size (20cm. x 10cm).

For grown up trees, dig a trench of 25 cm. Radius and 15 cm. deep around the base of a tree and apply the above 0.3% solution at the rate of 1 litre per tree. Alternatively, apply the above solution at the rate of 1 litre per tree. The solution can be applied on trunk either by spraying or with a paint brush.

Wood Protection

Unseasoned Timber or Seasoned Timber can be the best protected from wood destroying insects for e.g. Termites, Powder post beetle & Carpenter Ants by following any one of the under mentioned 3 systems totally.

Treat the wood up to 0.25% to 0.5% Dilution of chlorpyrifos 20% EC. This solution can be applied by spray, brush application, Dipping or pressure treatment. After the pressure is released the wood should be subsequently dried. To prepare the solution, Trisul 20% EC can be diluted as per the recommendation.

Dilution of mixture desired in Lit (Water or Oil) in lit. 0.25 concentrate

Quality of 20% EC to be used 0.5 concentrate

50	0.625	1.25
100	1.25	2.50
250	3.12	6.24
500	6.25	12.50
1000	16.25	32.50
3000	37.50	75.00

Dip Treatment: - Recommended at the rate of 1% to ensure adequate retention. The wood should be totally submerged in the dilution max of 8 hrs and then allowed to dry.

Spray: - Recommended @ 1% for spray by spray gun or brush application.

Packings available: 200L, 20L, 5L, 1L, 500ml & 100ml.

Why Trisul 20 EC

- Trisul has Triple Action formula: Contact, Stomach and Fungicidal.
- Trisul has Chlorpyrifos, the most effective termiticide.
- Trisul has a Quick Knock Down action.
- Trisul has a long residual effect, upto 20 years.
- Trisul is safer than conventional termiticides.
- Trisul conforms to ISI 8844, CML-8118265.
- Trisul is available in various packs: 100ml, 250ml, 500ml, 1, 5, 20 & 200 Litre barrel.



Precautions:

- Observe all mandatory safety precautions while handling, e.g. Avoid skin contact, wear protective clothes, gloves & goggles. Empty containers should be buried where there is no underground water course.
- **Note to Physicians:** Trisul is a cholinesterase inhibitor. Treat symptomatically. Do not induce vomiting if swallowed.
- **Antidote:** Atropine i.v.
- **Warranty:** The use of this product is beyond our control, therefore we can not assume any responsibility other than the uniform quality of the Product.