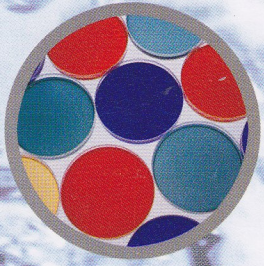


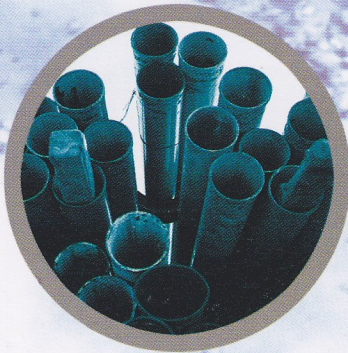
RODREPEL[™]
NON-HAZARDOUS BIRD AND ANIMAL REPELLANT



RODREPEL® is a non-hazardous and non-toxic animal and bird repellent. It is based on a quaternary ammonium adduct of Benzyl diethyl [(2,6-Xylylcarbamoyl Methyl)] Ammonium Benzoate. N-[(4-hydroxy-3-methoxyphenyl)methyl]-8-methyl-, (E)-; 8-Methyl-N-vanillyl-6- and capsaicin derivatives.

RODREPEL® Masterbatches: These are universal masterbatches with a recommended addition level of 1%- 5%

EFFECTIVENESS

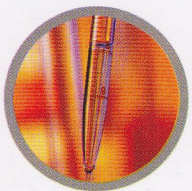


Laboratory tests conducted with polymeric objects containing RODREPEL® demonstrated that cables, pipes and plastic objects that were bitten by rats produced a very violent aversive reaction in the animal, without harming it in any way‡. In 100% of cases, the animal did not bite into the cable a second time.

These tests are carried out over an extended period of time. RODREPEL® actually modifies animal behavior. Tests were conducted on actual cable and pipe pieces in settings simulating real world conditions as they would exist in the environment. RODREPEL® has proven to be effective against a wide variety of animals, ranging from woodpeckers to grizzly bears.

RODREPEL® is effective at very low concentrations (e.g. 2000 - 3000 parts per million). However the dispersion of RODREPEL® in polymers requires dosages from 1% to 5% of the masterbatch depending on the dispersion process and application. The masterbatch is composed of 5% pure RODREPEL® in LDPE or EVA pellets, designed for optimum dispersion and ease of handling. RODREPEL® was developed by CTech Corporation using a patented process.

‡ Contact your local representative for the full study report.



COMPATIBILITY

RODREPEL® is 100% organic in nature and is non-hygroscopic. It is compatible with all thermosetting and thermoplastic polymers such as PE, XLPE, PP, PVC, polyesters, epoxies and paints, both water and oil based.



APPLICATION

- o Protecting cables and wires from rodent damage
- o Plastics requiring protection from animal and bird damage
- o Prevents cribbing in horses
- o Protecting gas pipes from rodent damage
- o Poultry netting, preventing predatory animals from attacking livestock
- o Protecting micro and drip irrigation pipes from rodents
- o Protecting fiber optic cables from animal damage

SAFETY & HANDLING

The product is non-toxic to humans. Special precautions in handling are the use of face masks and gloves to prevent accidental ingestion.

SAFETY PARAMETERS

- o RODREPEL® contains no lead, copper or heavy metal toxic compounds
- o RODREPEL® contains no toxic or environmentally harmful pesticides or insecticides
- o RODREPEL® is minimally soluble in water



TOXICOLOGY

RODREPEL® is non-toxic to animals, has no significant effect on birds and is non-toxic at recommended levels to aquatic organisms. It is also harmless to non-target and beneficial organisms. RODREPEL® is completely non-toxic to humans and the environment.

RODREPEL® masterbatches are safe to handle. However, because of its aversive properties, normal precautions should be taken to prevent it from adhering to the skin. When handling these masterbatches, the technician should wear rubber gloves, long sleeve lab coat or similar, and eye protection. If products should come into contact with the skin, wash with copious amounts of water and consult a physician. The active ingredient is manufactured using non-hazardous and non-toxic materials. The intent is that if the material is ingested it will cause the human or animal to find the taste so objectionable that they are repelled. So, bearing in mind that the product is intended to be extremely objectionable to all animals, it is nonetheless safe even if ingested. Hence, these masterbatches can even be ingested without harm.

SAFETY ASPECTS & ENVIRONMENT

RODREPEL® is a unique product in many ways. Our guiding principle is that our products must not harm humans, animals or the environment. RODREPEL® meets these requirements - it is harmless to all animals and to the environment. RODREPEL® is completely inert. Manufacturers and the public can be assured that RODREPEL® does not leach out from the products containing the same and pollute the environment.

Cables and pipes often pass through large expanses of untouched forests and open lands. Animals and protected species often come into contact with these cables or pipes. The goal is to protect both. RODREPEL® will effectively deter animals from chewing on these cables and pipes without harming the animal, and without affecting the environment in any way. In fact, it is the world's one and only completely non-toxic animal repellent for polymers.

POLYMER PROCESSING

Due to the small amount of addition levels suggested, RODREPEL® does not interfere with the physical or mechanical properties of the polymer.

RODREPEL® is completely inert in nature. RODREPEL® is not degraded by UV light, nor does it react with the additives used to modify plastics or any chemicals in the polymers. It is thermally stable, heat has no effect on RODREPEL®.

RODREPEL® is also available as a pre-dispersed formulated masterbatch which offers excellent dispersion.



WHY RODREPEL®?

Rodent damage to cables and optical fiber conduits often disrupts power supplies or results in a loss of communications. Damage caused by rodents has been shown to be the cause of fires due to short circuits and service outages.

RODREPEL® is a unique non-toxic rodent repellent for wires, cables, pipes and other polymer applications. RODREPEL® is available as a masterbatch or in concentrated form.

HOW DOES RODREPEL® WORK?

RODREPEL® works on the following 5 principles:

1. Aversion- By adding an extremely-bitter, foul-tasting property to the cable sheath or plastic component
2. Discomfort- By adding an extraordinarily spicy property which causes severe distress to the mucosa of the animal
3. Fear- By adding a synthetic aversive mimicking predator urine, detectable by animals but not by humans, which exploits an olfactory fear response of animal
4. Training - By teaching the animal that biting RODREPEL® is a very unpleasant experience, which leads to behavior modification and the animal avoids products made with RODREPEL® in the future
5. Association and conditioning - Not only does the animal remember the bad experience, it has been found that the animal passes on the information to its progeny. The fear response and unpleasant reaction is also communicated to other animals in the vicinity

It is possible to actually train animals and modify their behavior to polymeric objects containing animal repellents

- o Animals need not be harmed and damage to the environment can be completely avoided by using non-toxic animal repellents in objects made of plastic
- o Damage from animals can be completely controlled without harming the animals
- o Maximum repellence is achieved by addition of animal repellents to the actual point of contact in plastics





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