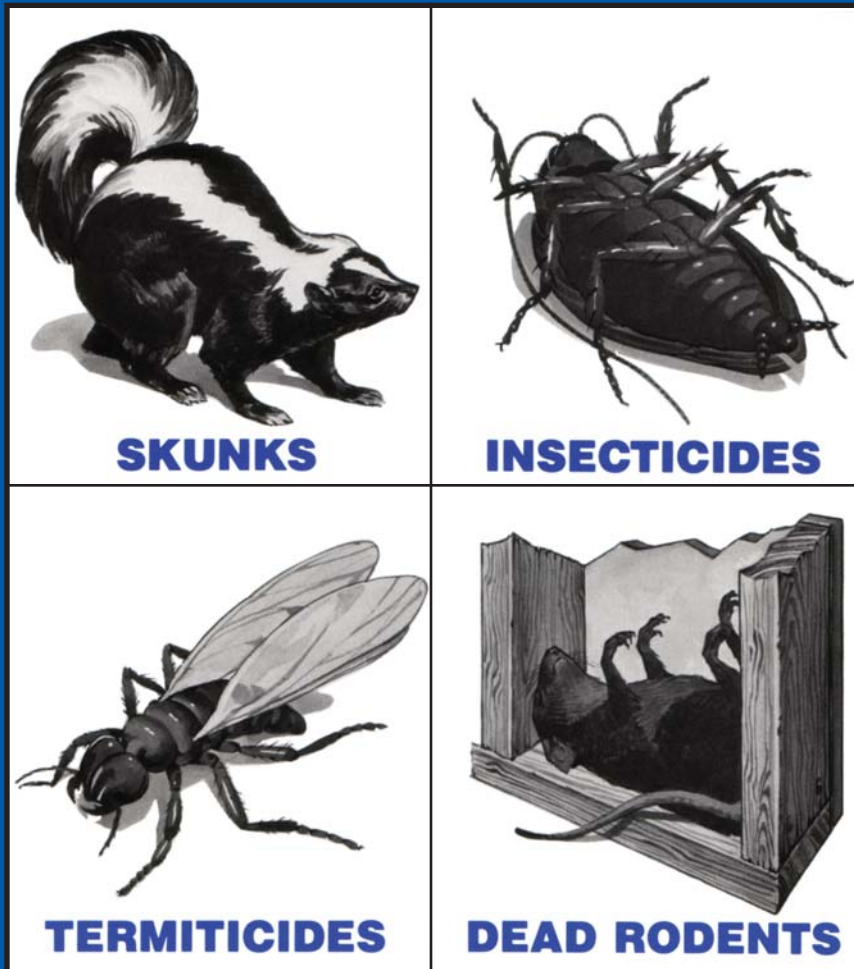


EPOLEON®

THE ABSOLUTE DEODORIZER FOR INSECTICIDES!
KILLS THE ODOR



Epoleon is a deodorizer made from fine, organic chemicals and complex compounds. Epoleon is biodegradable, emulsifiable, and a dissolver and neutralizer of malodors. Being an "Amphi-Deodorizer" Epoleon automatically and simultaneously reacts on gases from acidic to alkaline to remove the malodors by a method of chemical composition. Epoleon

has been tested both chemically and scientifically and is the result of many years of research. Epoleon contributes to the clean air environment of our society by decomposing the malodors of gases. Epoleon is a chemical product manufactured with substances that do not contain toxic or poisonous components.

EPOLEON[®]

NnZ SPECIFICATIONS

EPOLEON NnZ is a catalytic deodorizer that is nontoxic, non-hazardous and non-corrosive.

We call EPOLEON NnZ an "Amphi-Deodorizer" which is a word used by the inventor of EPOLEON, coined after consulting with personnel from the Massachusetts Institute of Technology (M.I.T.). "Amphi-Deodorizer" means that EPOLEON reacts simultaneously with acidic, alkaline and neutral gases.

Actually, the pure ingredients of insecticides such as chlorpyrifos and pyrethroids have no odors themselves. Malodors occur from halogen substances which are impurities such as chlorine, fluoride, iodine and bromine. EPOLEON reacts to these free halogens that cause the malodors. EPOLEON will not react with the actual insecticide ingredient and, therefore, it does not change the efficacy of the insecticide's abilities.

Currently, we do not stock a scented EPOLEON NnZ. However, it is available in a floral scent and can be supplied if demand is high enough. We manufacture two scented types that work in the same way as EPOLEON NnZ.

There are no competitive products to EPOLEON in the world. The main ingredients found in EPOLEON are betaine compounds which are water-soluble, organic compounds.

EPOLEON is able to react not only with the impurities found in insecticides, but also reacts with many other odors remaining in carpets, upholstery, etc. Therefore, EPOLEON NnZ can react with pet odors, sweat odors, tobacco odors, etc. that are imbedded in carpets and upholstery. It also reacts with raw garbage for indoor and outdoor applications, dead rodents, skunk odors, and if needed, to deodorize pool-deck areas.

EPOLEON NnZ was developed mainly for the deodorization and elimination of neutral odors. EPOLEON NnZ also dissolves and neutralizes toxic and poisonous gases which include acidic odors (Hydrogen Sulfide, Methyl Mercaptan) and alkali odors (Ammonia, Trimethylamine).

EPOLEON NnZ eliminates acidic, alkali and neutral odors such as putrefied fatty oils. EPOLEON NnZ has a special inclusion effect which deodorizes the traces of gases and odors which cannot be analyzed (for example, indole, skatole, etc.).

In addition, EPOLEON NnZ contains an emulsifier for oil and has excellent cleaning power.

BY USING EPOLEON NnZ WE WILL ALL BE LIVING IN A CLEAN AND HEALTHY ENVIRONMENT.

Very small amounts of toxic gases, such as in mineral and tap water, can actually build up a person's resistance to disease if this water is consumed over a long period of time. This is the same for very small amounts of toxic gas in the atmosphere, if this air is inhaled over a long period of time. (For example, if pure water such as distilled or iodized water is continuously consumed, a person will not be able to build-up a resistance to disease-anti-bacterial.)

However, toxic gas levels exceeding government regulations can cause serious ill-effects on a person's teeth and health. Many people may not notice high levels of toxic gases in water or the atmosphere because, after a certain period of time, they become accustomed to them. This is a serious problem which has been covered up with masking agents.

A deodorizer must have a dissolving and neutralizing reaction on toxic and poisonous gas. EPOLEON, which has a chemical dissolving and neutralizing reaction on toxic and poisonous gases, is the answer to solving this pollution problem.

(Safety Tests)

Oral Injection Test on Mice: 10ml/kg of weight injected. No deaths reported.

Skin Application on Mice: 0.4g applied 3 times daily for 2 days. No report of abnormality or damage to the skin. Conducted by Tokyo Food Technical Laboratory.

Bacteria Test: EPOLEON NnZ inhibits the growth of bacteria. 1% of EPOLEON NnZ was added to activated sludge containing bacteria. There was no effect on the bacteria. Tests conducted by the Kyoto Micro Biological Institute.

96 Hour Acute Toxic Test of EPOLEON NnZ on oryza latipes:

The 48 hour LC 50 test of EPOLEON NnZ, 7,484mg/lit
The 96 hour LC 50 test of EPOLEON NnZ, 6,304mg/lit

100% death rate occurred in 96 hours at the concentration level of 11,250mg/lit. The highest concentration level with a 0% death rate in 96 hours was 3,571mg/lit.

Foundation: Organization of the Investigation of Chemicals.

By the simple Head Space Method of testing, it is easy to see EPOLEON's effectiveness on reducing and eliminating Ammonia and various other types of gases, compared to masking agents.

(Composition and Physical Properties)

Organic and Salt of Organic Acids
 Amine Compounds
 Betaine Compounds
 Surface Active Agent
 Water
 pH.....4.6 - 6.8 (At 25°C)
 BoilingPoint.....100°C
 FreezingPoint..... -1.0°C
 Vap. Press.....Same as Water
 Sol. in Water.....Transparent
 Sip. Gravity.....1.03 ± 0.05 (At 25°C)
 Range of Molecular Weight.....50-800
 Appearance.....Transparent S1. Yellow
 Odor.....none

(Fire and Explosion Hazard Data)

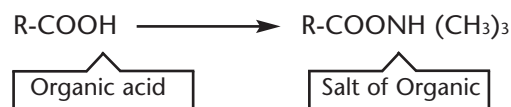
Flash Point.....None
 Method Used.....J.I.S.
 Flammable Limits.....None
 Extinguishing Media.....Not Required
 Fire and Explosion Hazards.....None
 Fire-Fighting Equipment.....Not Required

(Deodorization Process)

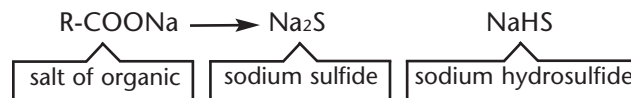
(1) Ammonia (NH₃)



(2) Trimethylamine (CH₃)₃N



(3) Hydrogen Sulfide (H₂S)



Amine Compound (R₁R₂-NH) in EPOLEON makes a Complex Compound for Hydrogen Sulfide (H₂S).

(4) Methyl Mercaptan (CH₃SH)



(5) Methyl Disulfide (CH₃SSCH₃), Methyl Sulfide (CH₃SCH₃), and fatty oils such as Indole and Skatole, etc. odors (which cannot be analyzed) are deodorized by including Betaine Compounds which are nontoxic, non-poisonous types. It is possible to deodorize approximately 20-25% of these odors.

The sulfide produced by the reaction of the above (5) and EPOLEON NnZ in the atmosphere, whether in solid or liquid state, is a neutral, stabilized, non-toxic, nonpoisonous compound which dissolves in water. This stabilized compound will not be released into the atmosphere unless the water is alkali (pH10 or over) or acidic (pH3 or below).

HEAD SPACE DEODRIZATION TEST

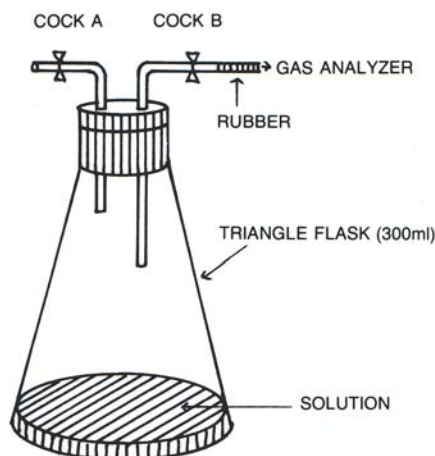
(Test Procedure)

One milliliter of deodorizer and 19ml of solution which includes odorous gas and water (total 20ml) is mixed then added into a 300ml triangle flask. The flask is shut with the rubber stopper and stirred for 10 minutes. Then the concentration of odorous gas (in the head space of the upper portion of the flask) is measured by a gas analyzer.

As a comparison, the same test procedure was done with only water and competitive products and water.

(Test Specifications)

Triangle Flask:	300ml
Time Period Before Measurement:	10 minutes
Measurement Device:	Gas Analyzer
Amount of Deodorizer:	1ml
Amount of Solution:	19ml
Temperature:	25°C



(Rate of Elimination)	Original Content	After Adding EPOLEON NnZ
Ammonia	150ppm	0ppm
Hydrogen Sulfide	200ppm	0ppm
Methyl Mercaptan	10ppm	4ppm
Trimethylamine	50ppm	0ppm

*For reduction under 1ppm, 5ml of EPOLEON NnZ was required.

EPOLEON NnZ has the ability to deodorize the traces of indole, skatole, putrefied fatty acids, etc., which cannot be analyzed. This is possible by including EPOLEON NnZ. In addition, EPOLEON NnZ has an emulsifying effect on oils.

EPOLEON DOSAGE/MIXTURE RATES:

INDOOR FLEA/COCKROACHES: 2 oz. or more of EPOLEON for 1 gallon of finished insecticide solution. Mix directly in the spray tank with the insecticide solution.

OUTDOOR TERMITES: 2 oz. or more of EPOLEON for 100 gallons of finished termiticide solution.

DEAD RODENTS AND SKUNK ODORS: 1/2 gallon of EPOLEON mixed with 5 gallons of water. Spray directly on the object and/or source of odors.

ODORS REMAINING AFTER FIRE: 1 gallon of EPOLEON mixed with 100 gallons of water. Spray on entire surface area, floor, walls, etc.

GARBAGE ODORS: 1/2 gallon of EPOLEON mixed with 5 gallons of water. Spray in garbage cans, directly on trash and area where odors are generated.

The above EPOLEON dosage/mixture rates are general.

The dosage will vary depending on the type and the amount of insecticides, temperature, etc.. To obtain better results, increase the amount of EPOLEON.

Your insecticide odor can be practically eliminated by the addition of Epoleon to your product, Epoleon is a non-toxic, non-hazardous, non-staining, non-flammable product that does not promote the fading of carpets, draperies or upholstered furniture colors or alter the effectiveness of insecticides. It's economical to use and creates a natural, clean atmosphere by chemically and permanently neutralizing the malodor of gases.

EPOLEON NnZ
The Absolute Deodorizer

For more Epoleon information contact your local distributor or call: 1-800-EPOLEON (1-800-376-5366).

EPOLEON[®] Corporation

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CASE STUDY:

When EPOLEON was mixed with a leading insecticide, odors associated with that insecticide were reduced without a decrease in the residual efficacy of the product.

Also, EPOLEON was not found to be repellent to German cockroaches in choice box trials; nor did it negatively affect the mortality rate when mixed with the insecticide in these choice box trials.



For more detailed information, please contact your distributor or EPOLEON CORPORATION.

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