

## The Absolute Deodorizer For Agricultural Chemicals

# EPOLEON<sup>®</sup> N-100

### SPECIFICATIONS

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 N-100 was developed mainly for extra-strength deodorization of neutral odors. EPOLEON N-100 completely dissolves and neutralizes toxic and poisonous gases which include acidic odors (Hydrogen Sulfide, Methyl Mercaptan) and alkali odors (Ammonia, Trimethylamine).

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 will not react with the actual insecticide ingredient and, therefore, it does not change the efficacy of the insecticide's abilities.

### BY USING EPOLEON N-100 WE WILL BE LIVING IN A CLEAN AND HEALTHY ENVIRONMENT.

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 gas in water or the atmosphere because, after a certain period of time, they become accustomed to it. This is a serious problem that for a long time 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.

### METHYL MERCAPTAN:

One (1) gram of EPOLEON N-100 reacts with 21.6 mgs. of methyl mercaptan.

### INHALATION TEST:

The acute inhalation toxicity studies were conducted with EPOLEON N-100 in the rat. The test atmospheres were generated in the breathing zone of the animals using a spray atomization system. The exposures were conducted in a 100 liter rectangular chamber. The actual exposure level was determined gravimetrically and expressed on a formulation basis. The exposure to EPOLEON N-100 was conducted at an actual exposure level of  $5.69 \pm 0.257$  mg/L which was in agreement with the protocol-specified target level of 5 mg/L. The mass median aerodynamic diameter (MMAD) values in this exposure were 3.78 to 3.79 microns and indicated the test atmosphere was also respirable in size to the rat. All animals in both studies appear normal at present and are expected to survive to termination which will be 14 days after their exposure.

### MULTIPLE SPECIES GREENHOUSE SCREEN FOR PHYTOTOXICITY FROM EPOLEON N-100 CONCENTRATE:

Two flats, one containing Kentucky Bluegrass, lettuce, oats, tomato, and sweet corn, and the other containing cotton and potatoes were combined to create an experimental unit. The crops were planted using Pro-Mix BX as a medium. Each unit was watered to maintain optimal growing conditions. EPOLEON N-100 when applied alone or in combination with Parathion 8E and Sevin XLR did not observe to cause crop injury under the conditions of this greenhouse study.

### CASE STUDY:

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

### EPOLEON DOSAGE/MIXTURE RATES:

10% or more against the insecticide weight and diluted with water.

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.



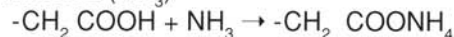
# Dissolver And Neutralizer of Toxic And Poisonous Gases

## EPOLEON® N-100

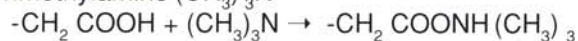
For Agriculture Insecticides, Pesticides . . .

### (Deodorization Process)

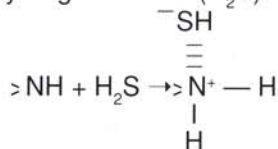
(1) Ammonia (NH<sub>3</sub>)



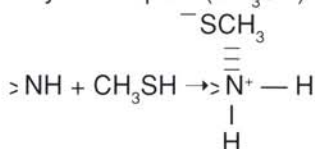
(2) Trimethylamine (CH<sub>3</sub>)<sub>3</sub>N



(3) Hydrogen Sulfide (H<sub>2</sub>S)



(4) Methyl Mercaptan (CH<sub>3</sub>SH)



(5) Methyl Disulfide (CH<sub>3</sub>SSCH<sub>3</sub>), Methyl Sulfide (CH<sub>3</sub>SCH<sub>3</sub>), and fatty oils such as Indole and Skatole, etc. odors (which cannot be analyzed) are deodorized by including Betaine Compounds which are non-toxic and 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 N-100 in the atmosphere, whether in solid or liquid state, is a neutral, stabilized, non-toxic, non-poisonous compound which dissolves in water. This stabilized compound will not be released into the atmosphere unless the water conditions are alkali (pH10 or over) or acidic (pH3 or below).

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

**TOLL FREE: 1-800—HIT-ODOR (1-(800) 448-6367)**

**EPOLEON® CORPORATION OF AMERICA**

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DISTRIBUTED BY:

### (Composition and Physical Properties)

Organic and Salt of Organic Acids

Amine Compounds

Betaine Compounds

Water

pH ..... 4.8 - 6.5 (At 25°C)

Boiling Point ..... 100°C

Freezing Point ..... 1.0°C

Vap. Press ..... Same as Water

Sol. in Water ..... Completely

Sp. Gravity ..... 1.17 ± 0.05 (At 25°C)

Range of Molecular Weight ..... 50 - 800

Appearance ..... Transparent Sl. Yellow

Odor ..... None

### HEAD SPACE DEODORIZATION 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 Deodorizer:	1ml
Amount of Solution:	19ml
Temperature:	25°C

#### (Rate of Elimination)

	Original Content	After Adding EPOLEON N-100
Ammonia	700ppm	0ppm
Hydrogen Sulfide	1000ppm	0ppm
Methyl Mercaptan	20ppm	under 1ppm
Trimethylamine	120ppm	0ppm

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.

