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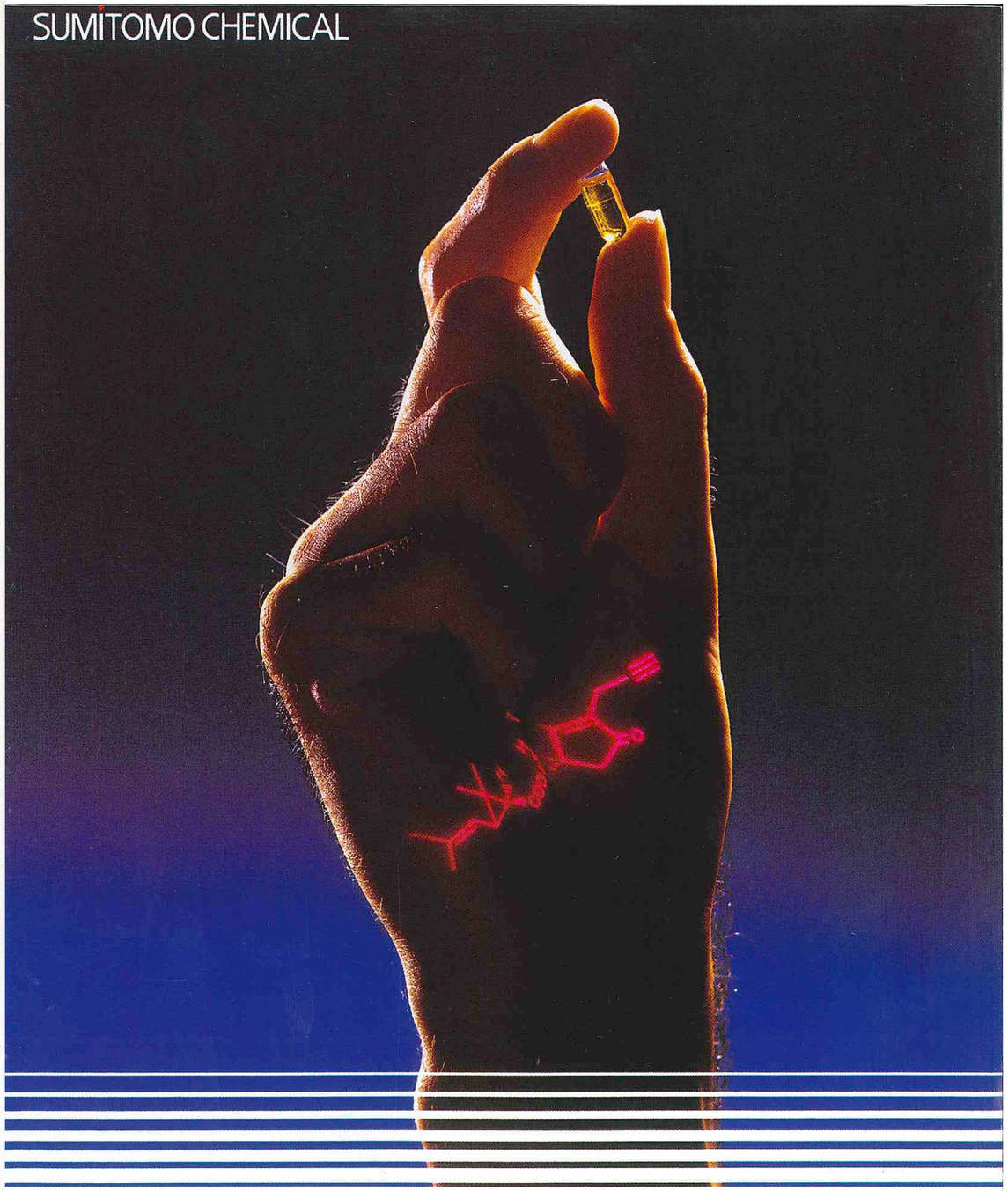
FFZ-96I-1K ⓉE-0080 *Printed in Japan*

SUMITOMO CHEMICAL



ETOC®

New Pyrethroid

Pyrethroid for New Era

We are pleased to add to our product line, unique powerful insecticide, ETOC® (prallethrin), newly developed through our biotechnology. With its higher knock-down potency against flying and crawling insects than any other pyrethroids, ETOC® can be used to control a wide variety of household insect pests. Use it as an active ingredient in mosquito coil, mosquito mat, aerosol and a diverse number of other applications of your own design.

ETOC®

Contents

CHARACTERISTICS

Super knock-down insecticide
- Highest knock-down against household insect pests among all pyrethroids.
- Highest kill among knock-down pyrethroids.

Low toxicity to mammals
- Application at lower dosages favorable for human and environmental protection.
- Not persistent in the environment.

Wide insecticidal spectrum
- Kills all types of pests flies, mosquitoes, gnats, cockroaches, ants, wasps, hornets, ticks, fleas, spiders and other household insect pests.

Broad range of application
- Mosquito mat, coil, aerosol, emulsifiable concentrate, oil liquid and other type of applications.

First Aid

If swallowed, keep patient prone and quiet, and call a physician. In extreme emergency where no medical assistance is within immediate reach, induce vomiting by touching back of throat with fingers.

Never induce vomiting or give anything through mouth to an unconscious person.

Inducing vomiting as first aid for the formulation contains the hydrocarbon solvent may result in increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent.

Vomiting should be induced only under professional supervision.

Gastric lavage should be supervised by a physician or the professional staff.
If eyes are splashed, immediately flush eyes with large amount of water, and continue for 15 minutes. Get medical attention. If skin is contacted, remove all contaminated clothing at once. Thoroughly wash skin with soap and water. Get medical attention.

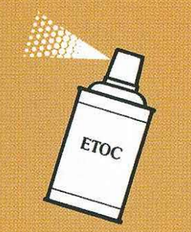
APPLICATION

Recommended Uses

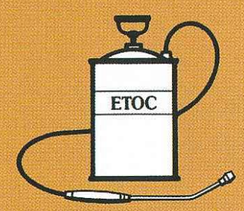
1 Mosquito Mat

2 Mosquito Coil

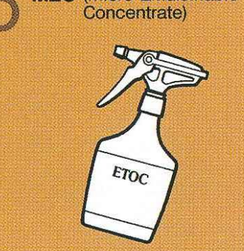
3 Aerosol OBA/WBA



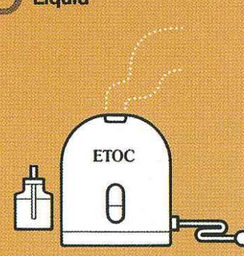
4 EC (Emulsifiable Concentrate)



5 MEC (Micro Emulsifiable Concentrate)



6 Mosquito Vaporizer Liquid



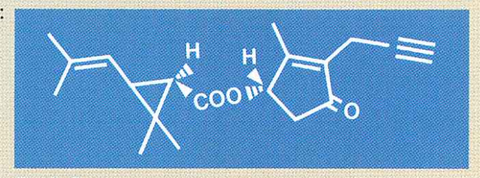
Sumitomo standard formulation

Mosquito mat: ETOC 10 mg/mat
Mosquito Vaporizer Liquid: ETOC 0.67% for 30-day use
Aerosol: ETOC/Gokilaht 0.1/0.3%$^{w/w}$ OBA/WBA
ETOC/Sumithrin/PBO 0.075/0.075/0.3%$^{w/w}$ OBA
Micro Emulsifiable Concentrate: Pesguard EG 092

TECHNICAL INFORMATION

ETOC®

Physical and Chemical Properties

Trade Name:	ETOC®
Chemical Name:	(*S*)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl (*1R*)-*cis*, *trans*-chrysanthemate
Common Name:	Prallethrin (BSI)
Chemical Structure:	
Empirical Formula:	$C_{19}H_{24}O_3$
Molecular Weight:	300.40
Appearance:	Yellow to yellow-brown liquid
Odor:	Faint characteristic odor
Specific Gravity:	d_4^{20} 1.03
Viscosity:	550 cps (25°C)
Vapor Pressure:	3.5×10^{-5} mmHg at 20°C
Solubility:	Miscible with most aromatic and aliphatic hydrocarbons, chlorinated hydrocarbons, and other organic solvents. Low water solubility.
Stability:	Stable under ordinary storage conditions. • Stable in most organic solvents. Relatively unstable in lower alcohols. • Less persistent under photo-irradiation.

Toxicity

Acute toxicity:

Acute oral LD_{50} for rats
♂ 640 mg/kg (FFT-0032) ♀ 460 mg/kg (FFT-0032)

Acute dermal LD_{50} for rats (♂,♀)
> 5,000 mg/kg (FFT-0033)

Skin sensitization: Negative (in guinea pigs)

Primary eye and skin irritation:

Eye irritation in rabbits	Minimal (FFT-0030)
Skin irritation in rabbits	Negative (FFT-0030)

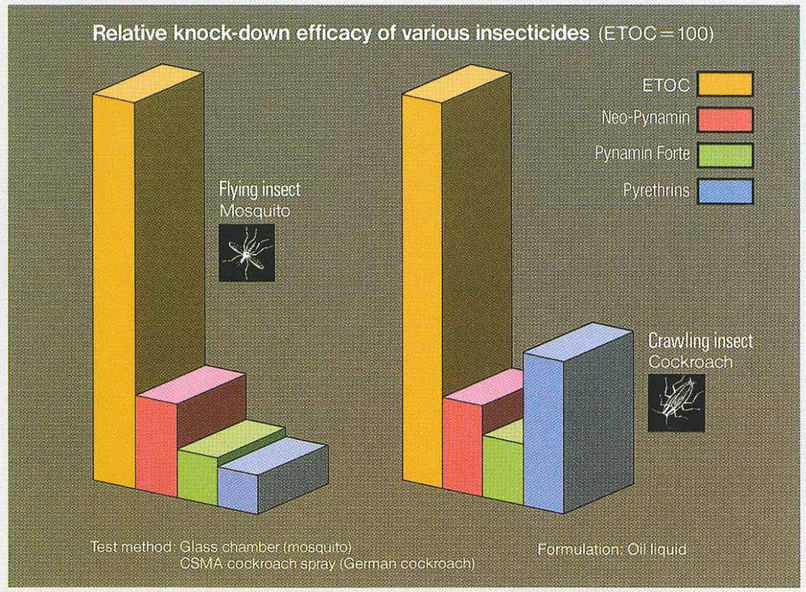
*Other toxicological data are available for the registration of your products.

TECHNICAL INFORMATION

Biological Activity

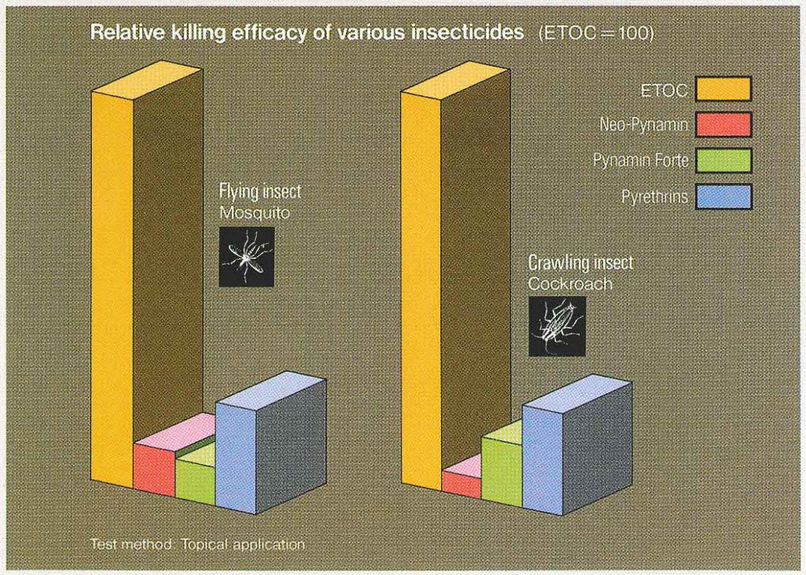
Knock-Down Efficacy

The knock-down performance of ETOC compared with that of other conventional insecticides has been confirmed against mosquito (*Culex pipiens pallens*) and German cockroach (*Blattella germanica*).



Killing Efficacy

The killing efficacy of ETOC is higher than any other conventional knock-down pyrethroids.

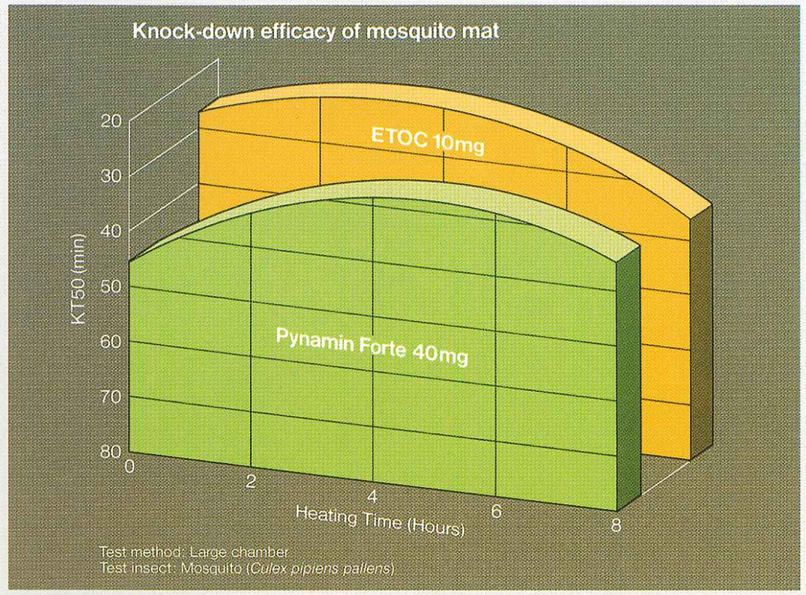


APPLICATION

ETOC can be applied for flying insects and crawling insects using the following formulations;

Mosquito Mat

ETOC is recommended for mosquito mat because of its moderate volatility and high knock-down efficacy.



Aerosol

ETOC can be used in oil-based and water-based aerosol formulations.