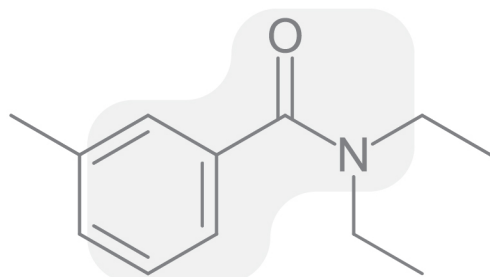






# Chemistry of Insect Repellents

## DEET

Preferred IUPAC name:  
**N,N-Diethyl-3-methylbenzamide**

Other Names:  
**N,N-diethyl-meta-toluamide**

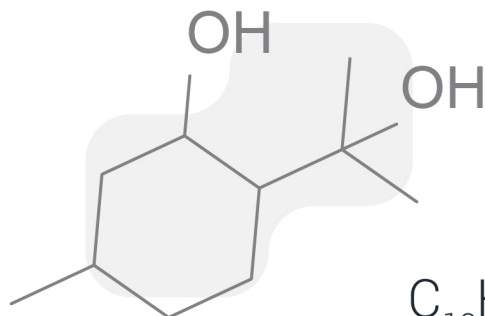






-  Most common active ingredient
-  2-8 hours protection (20-30% solution)
-  <10% recommended for children up to 12
-  Protection from mosquitoes, ticks, fleas & other biting insects

## CITRIDIOL

Preferred IUPAC name:  
**2-(2-Hydroxypropan-2-yl)-5-methylcyclohexan-1-ol**

Common name:  
**p-Menthane-3,8-diol**

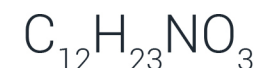
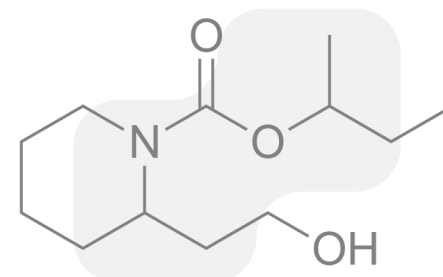






-  From oil of the Lemon Eucalyptus tree
-  ~6 hours protection (10-20% solution)
-  No adverse effects – irritation possible if contact with eyes occurs
-  Protection from mosquitoes, flies & gnats; also a miticide, killing insects and mites.

## ICARIDIN (PICARIDIN)

Preferred IUPAC name:  
**(RS)-sec-butyl (RS)-2-(2-hydroxyethyl) piperidine-1-carboxylate**

Preferred INCI name:  
**hydroxyethyl isobutyl piperidine carboxylate**

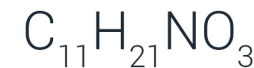
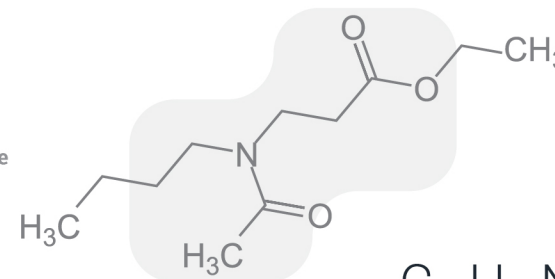






-  Odourless & Doesn't damage plastics
-  2-8 hours protection (20% solution)
-  Not a skin irritant
-  Effective against mosquitoes, ticks, fleas, biting fleas & chiggers

## IR3535

Preferred IUPAC name:  
**Ethyl N-acetyl-N-butyl-β-alaninate**

Common name:  
**Ethyl butylacetylaminopropionate**



-  No negative effects reported
-  2-6 hours protection (10-20% solution)
-  Not harmful when ingested or inhaled, though can irritate eyes on contact
-  Protection from mosquitoes, ticks, body lice, and biting flies