



# Propofol

## Introduction,

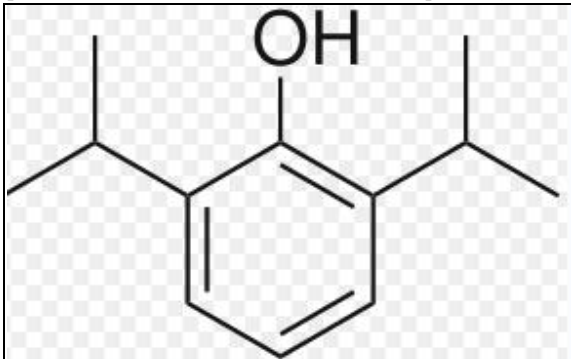
Michael Jackson, a famous artist, fabulous dancer and marvelous singer, died on June 25, 2009. Many people suspected that his death was attributed to the excessive usage of propofol. Owing to this, we want to have a deeper understanding of this medicine.



Death of Michael Jackson

## What is propofol,

Propofol is an anesthetic. It is used to produce relaxation and sleep before or during surgery. It is also used in patients on a ventilator. It is also called Diprivan (shortened version of diisopropyl intravenous anesthetic).



Structure of propofol

## Appearance of propofol,

Propofol emulsion appears as a highly opaque-white fluid due to the scattering of light from the tiny (~150 nm) oil droplets that it contains.

## Development of propofol,

It is developed by Imperial Chemical Industries as ICI 35868 originally, initial clinical trials followed in 1977 in a form solubilised in cremophor EL.

However, due to anaphylactic reactions, it was withdrawn from the market and subsequently reformulated as an emulsion of a soya oil/propofol mixture in water.

Later, it was re-launched in 1986 by ICI (now AstraZeneca).

The current preparation is 1% propofol, 10% soybean oil and 1.2% purified egg phospholipid (emulsifier), with 2.25% of glycerol as a tonicity-adjusting agent, and sodium hydroxide to adjust the pH and it contains EDTA as an antimicrobial agent.

Newer generic formulations contain sodium metabisulfite or benzyl alcohol.



Vial of propofol for injection

### Possible side effects,

- allergic reactions like skin rash, itching or hives, swelling of the face, lips, or tongue
- breathing problems
- changes in vision
- dark urine
- fast, irregular heartbeat
- feeling faint or lightheaded, falls
- fever
- low blood pressure
- muscle pain or weakness
- numbness or tingling in the hands or feet
- seizures
- stomach pain
- trouble passing urine or change in the amount of urine
- uncontrollable muscle spasm
- unusual weakness
- dizziness
- nausea
- pain at site where injected
- addicted

### Restriction

- heart disease
- high cholesterol
- pancreatitis
- seizures
- an unusual or allergic reaction to propofol, anesthetics, eggs, soy, benzyl alcohol, sulfites, other medicines, foods, dyes, or preservatives
- pregnant or trying to get pregnant
- breast-feeding
- infant

### Molecular modification,

A water-soluble prodrug form, fospropofol, has recently been developed and tested with positive results, being rapidly broken down once in the body by the enzyme alkaline phosphatase to form propofol. Marketed as

Lusedra, this new formulation might well have superior properties for use in humans, such as being more readily injectable and perhaps without the pain at injection site that often occurs with the traditional form of the drug. The US Food and Drug Administration approved the product in 2008.

