

## PRODUCT IN FOCUS

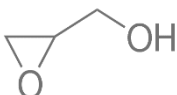


# Glycidol

## INTRODUCTION

Glycidol is a slightly viscous organic compound that is characterized by presence of an epoxide in beta-position with respect to the alcoholic hydroxyl group. This renders instability to the compound resulting in a rapid decay. Hence the product is stored and transported under refrigerated conditions.

The bifunctional moiety finds a hierarchy of end-uses in Industrial applications as well as fine chemicals and APIs. ***Glycidol has recently found use as a key component in a SARS COV2 testing kit.***

Synonyms	Oxiran-2-ylmethanol; 3-Hydroxypropylene oxide; 1,2-Epoxy-3-hydroxypropane
CAS no.	556-52-5
EINECS no.	209-128-3
Molecular formula	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>
Molecular weight	74.08
Structure	

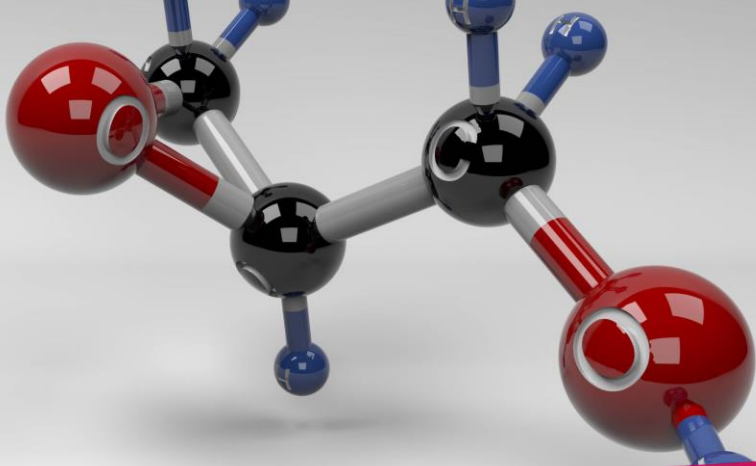
## INDUSTRIAL APPLICATIONS

The racemic product as such acts as:

- Ⓢ an epoxide building block
- Ⓢ a stabilizer in PVC compounding
- Ⓢ a stabilizer for natural oils and vinyl polymers
- Ⓢ a dye-levelling agent and a demulsifier
- Ⓢ a reactive diluent in coatings
- Ⓢ an RM in syntheses of polyurethanes and hyperbranched polyglycerols
- Ⓢ a gelation agent in solid propellants

Being a reactive molecule, it combines with many organic chemicals that results in a series of derivatives.

GLYCIDOL	Amines	→	Alkanolamines
	Polymerization	→	Polyglycerols
	Methylamine	→	Glycidyl Methacrylate
	C10/C12 FAME	→	Glycidyl Fatty Acid Esters
	C10-C18 FAME	→	Glycidyl Ester & Ethers as non-ionic surfactants
	Fatty Alcohols	→	



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### MEDICAL APPLICATIONS

Glycidol serves as a building block in chemical synthesis of a wide range of APIs such as cardiac drugs which help lower the blood pressure and maintain overall heart muscle, antiviral drugs used in the battle against HIV, Biochemical probes and different pharmaceutical applications.

### CARDIAC AGENTS

Glycidol is used in production of cardiac drugs such as  $\alpha$ ,  $\beta$ -Blockers,  $\alpha$ -Blockers,  $\beta$ -Blockers,  $\beta_1$ ,  $\beta_2$ -Blockers which lower high blood pressure, restore the heart rhythm (antiarrhythmic) and improve overall work of the heart muscles.

API	Therapeutic Category
Adrenaline	Hormone (for cardiovascular activities)
S-(-)-Atenolol	$\beta$ -Blocker
Bufenolol	$\beta$ -Blocker
Falintolol	$\beta$ -Adrenergic receptor
Levobunolol	$\beta$ -Adrenergic blocker
S-(-)-Metoprolol	$\beta$ -Blocker
Naipradilol	$\beta$ -Blocker
Noradrenaline	Vasopressor
Oxprenolol	$\beta$ -Blocker
Propafenone	Antiarrhythmic
Propanolol	$\beta$ -Blocker

### ANTIBACTERIAL, ANTIVIRAL AND OTHER PHARMACEUTICAL AGENTS

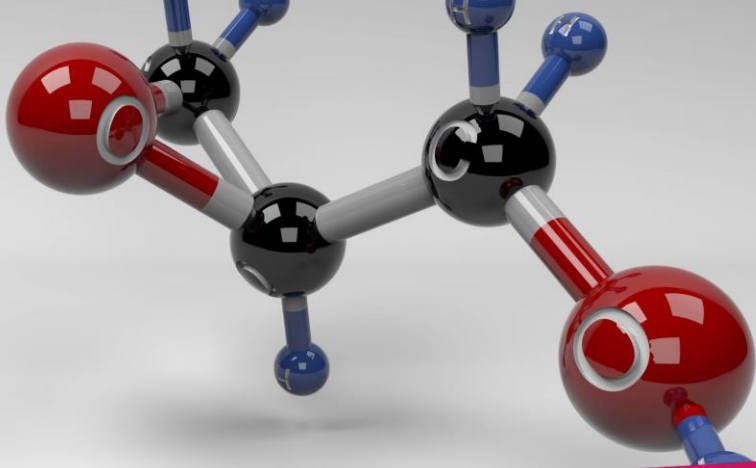
Antibacterial and Antiviral compounds which belong to a group of biologically active compounds combining a selective activity against HIV and HSV with a high stability can also be obtained from Glycidol.

API	Therapeutic Category
Fexofenadine	Antihistamine
Guaifenesin	Expectorant
Indinavir Sulfate	Anti-Retroviral
Leinamycin	Antibiotic
Levodropropizine	Antitussive
Montelukast	Anti-asthma
Tenofovir	Anti-Retroviral

### BIOCHEMICAL PROBES

Many compounds coming from a nonracemic glycidol are not applied as drugs; yet they can be used as probes to explain the functioning mechanism of enzymatic systems.

For e.g. A nonracemic glycidol in the synthesis of glycerophosphocholines.



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### SPECIFICATIONS

Test	Unit	Specification
Appearance	-	Colorless liquid
<b>Identification</b>		
• IR	-	Should conform to the reference spectrum
• <sup>1</sup> H NMR	-	Should conform to the structure
Assay (by GC)	%	Min 96.0
Water Content (by KF)	Wt %	Max 0.5

### STORAGE

Recommended storage temperature is 2° to 8°C.

Glycidol is manufactured for ExSyn on campaign basis so each supply is from a freshly manufactured batch. No matter the quantity you need, our exceptional quality and service will make ExSyn your supplier of choice! If you need any additional information or SDS, please get in touch with us.