



Product Information

FERMASE OX™
1500

R - Oxynitrilase (Enzyme for chiral intermediates)



- Introduction** : The usage of enzymes in industrial applications increasingly demands the availability of suitable technologies for handling these biocatalysts. R-Oxynitrilase from almonds (E.C. 4.1.2.10) catalyses the reversible enantioselective condensation of hydrogen cyanide with aldehydes to form high value cyanohydrins. Oxynitrilases are currently utilized in a series of different processes for ton-scale production of chiral building blocks
- Product Type** : **FERMASE** OX™ 1500 is supplied as a purified enzyme concentrate with different activities, without any preservatives.
- Color** : Orange. The color may vary from batch to batch and the color intensity is not an indication of the product quality
- Properties** :
 - ◆ Activity Range : 1500 - 2000 Units per ml
 - ◆ Sp. Activity : 40-60 Units per mg protein
 - ◆ Substrate specificity: Very broad specificity, aromatic, heterocyclic, aliphatic aldehydes.
 - ◆ pH optimum: 5.5 - 5.7
 - ◆ Reaction type: Selective cyanohydrin formation
- Application** : Organic synthesis of chiral cyanohydrins from the corresponding aldehydes and unhindered ketones. Useful in preparation of chiral intermediates for the synthesis of optically active hydroxy esters, 2-hydroxy ketones etc.
- Unit Definition** : One unit corresponds to amount of enzyme catalysing hydrolysis of one micro mole of DL-Mandelonitrile into benzaldehyde per minute at 25° C, pH 5.5 at 0.6 mM DL-Mandelonitrile in milieu of 100 mM citric acid buffer.
- Current application** : **FERMASE** OX™ 1500 has been used in the process of making R-Ethyl-2-Hydroxy-4-phenylbutyrate.
- Availability** : **FERMASE** OX™ 1500 is available from Kilo units to Giga units with different specific activities. On specific demand **FERMASE** OX™ 1500 can be made available as Cross Linked Enzyme Aggregate (CLEA).

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- Advantages** :
- ◆ High enantiomeric purity
 - ◆ High yield and selectivity
 - ◆ Highly stable and purified enzyme
 - ◆ Cost and quality leadership
 - ◆ Available with customized specifications
- Storage and product stability** :
- Cool and dry conditions are recommended for storage. The recommended temperature for storing is between -5 to 0° C. When stored under these conditions, the product will remain in its active state at least for 12 months
- Safety** :
- FERMASE OX™ 1500** is very safe to handle as it does not generate any aerosols. However, avoid raising aerosols. Avoid contact with skin and eyes. Take up the spilled dust by mechanical means. Avoid forming aerosols, wash contaminated clothing & ensure sufficient ventilation.

MANUFACTURED BY :
FERMENTA BIOTECH LTD.