

FATTY ACID METHYL ESTER (FAME)

FAME (Fatty Acid Methyl Ester) is the generic chemical term for biodiesel derived from renewable sources. It is used to extend or replace mineral diesel and gas oil used to fuel on and off-road vehicles and static engines.

Fatty acid methyl esters (FAME) are a type of fatty acid ester that are derived by transesterification of fats with methanol. The molecules in biodiesel are primarily FAME, usually obtained from vegetable oils by transesterification. They are used to produce detergents and biodiesel.

FAME are typically produced by an alkali-catalyzed reaction between fats and methanol in the presence of base such as sodium hydroxide, sodium methoxide or potassium hydroxide. One of the reasons for FAME use in biodiesel instead of free fatty acids is to nullify any corrosion that free fatty acids would cause to the metals of engines, production facilities and so forth. Free fatty acids are only mildly acidic, but in time can cause cumulative corrosion unlike their esters. As an improved quality, FAMES also usually have about 12-15 units higher cetane number than their unesterified counterparts.



Quick Facts

Product	:	Fatty Acid Methyl Ester (FAME)
Stock No	:	NS6130-12-002070
Purity	:	99.9%
Molecular Formula	:	CH ₃ (CH ₂)NCOOCH ₃



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Technical Specification

Molecular Weight	Density	Viscosity at 200C	APS
-	0.88Kg/lit	7.5mm2/S	-

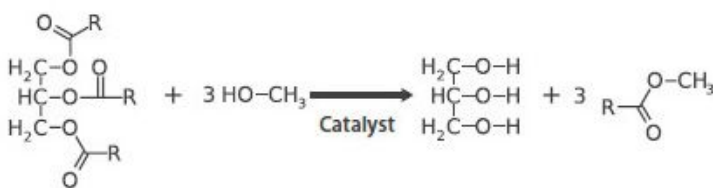
Applications:

- ✓ FAME is biodegradeable and is an ideal source of nutrients for microbes.
- ✓ FAME (Fatty Acid Methyl Ester) is the generic chemical term for biodiesel derived from renewable sources. It is used to extend or replace mineral diesel and gas oil used to fuel on and off-road vehicles and static engines.
- ✓ FAME is being increasingly used in solvent applications as a green solvent since it contains low VOC along with being readily biodegradable. Moreover, in the leather chemical industry, it is used to produce a leather fat liquoring agent, which in turn is used as an excellent textile detergent.

PRODUCTION PROCESS:

FAME is produced from vegetable oils, animal fats or waste cooking oils by transesterification. In the transesterification process a glyceride reacts with an alcohol in the presence of a catalyst, forming a mixture of fatty acids esters and an alcohol. Using triglycerides results in the production of glycerol.

Transesterification is a reversible reaction and is carried out by mixing the reactants. A strong base or a strong acid can be used as a catalyst. At the industrial scale, sodium or potassium methanolate is mostly used. The following reaction occurs:



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