



DI – OCTYL ADIPATE (DOA)

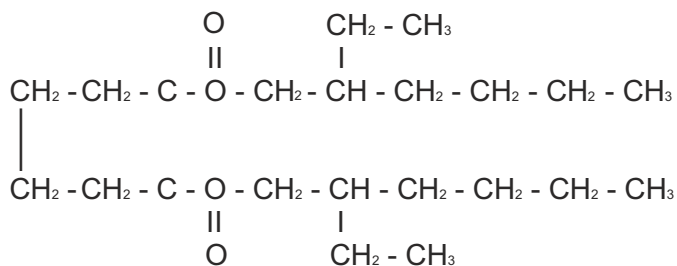
DI – OCTYL ADIPATE (DOA)

Primary plasticizer for PVC and PVC copolymers

Chemical Nature

Adipic acid ester of C₈ alcohol

Chemical Name :- Bis (2-Ethylhexyl) Adipate
 Trade Name :- DOA ,DEHA
 Molecular Formula :- C₂₂H₄₂O₄
 Molecular Weight :- 370
 Molecular Structure :- (CH₂)₄(COOC₈H₁₇)₂



CAS Number :- 103-23-1
 UN. NO :-
 EINECS NO :-

Specification

Characteristics	Unit	Test Method	Value
Colour	HU	ASTM-D-1045-86	30 max.
Volatile Loss (130°C/ 3Hrs)	wt.%	KLJTM	0.1 max.
Ester Value	mg KOH/g	ASTM-D-1045-86	302 – 306
Acidity	wt.%	ASTM-D-1045-86	0.020 max.
Moisture	wt.%	ASTM-E-203	0.10 max.
Specific Gravity (27°C)	-	ASTM-D-1045-86	0.922 – 0.926
Ester content	wt.%	ASTM-D-1045-86	99.50 min.
Heat Stability (180°C/ 2Hrs)	HU	ISI-9591-96	40 HU
Acidity after heat treatment	wt.%	ASTM-D-1045-86	0.04
Plasticizing Esters by GC	% by area	KLJTM	99.50 min.
Residual alcohol	% by area	KLJTM	0.10 max..

Typical Properties

Volume Resistivity	Ohmcm	KLJTM	3.2 ± 0.2 X 10 ¹¹
Boiling Point	°C	Lit	335
Pour point	°C	Lit.	-75
Viscosity at 20°C	cp	KLJTM	14 ± 2
Refractive Index (27°C)	-	ASTM-D-1045-86	1.446-1.450.

Total Solution in Plasticizers



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Properties

DOA is almost colourless and odourless oily liquid, free of foreign materials. Does not dissolve in water, dissolves in organic solvents, like the chloroform, gasolene, ethyl acetate, methanol, toluene, mineral oil, vegetable oil, etc; slight soluble in ethylene glycol.

Application

DOA is a highly efficient plasticizers which imparts excellent low temperature flexibility and resistance to impact to the base resin. For these reasons it finds wide use in polymeric systems based on vinyl, nitrocellulose and rubber .

It is extensively used in food contact application. In addition to its high efficiency and contribution to the low temperature properties of vinyl **DOA** is chemically stable and resistant to discoloration on extended exposure to heat and ultraviolet light.

The combination of low viscosity and efficiency provide excellent dry blending and processing characteristics.

When used in plastisols, **DOA** imparts low initial viscosity and good viscosity stability.

Plasticizing Efficiency 0.93

Packing & Storage

DOA is packed in 200/225 kg iron drum / HDPE drum, 20 - 22 MT in Flexi tank / ISO tank / road tanker. It is stored in tightly closed container, in a cool & dry, ventilated area.

Shelf Life

Original characteristics remain intact for 24 months, if kept in recommended storage.

Safety

The MSDS can be provided on request.

Disclaimer

The data contained in this publication are based on our current knowledge and experience. During processing, there are so many factors which may affect the application part of **DOA**, so these data neither imply any guarantee of certain properties, nor the suitability of the product for the specific purpose. Any data given in this publication may change without prior information and do not constitute the agreed quality of our product.

[Total Solution in Plasticizers](#)