



D-Limonene Emulsifiers

DL-219A/B/C/E/F/ES SERIES

DL-219A – D-Limonene Emulsifier is a non-ionic emulsifier package designed for making d-limonene oil-in-water micro-emulsions. DL-219A is biodegradable, exhibits extremely good water rinsing properties, and when properly formulated produces a very stable water dilute-able micro emulsion. It has many industrial applications from parts washing solutions, to ink, grease and stain removal, to acid-based rinsing agent.

Consult our tech department for formulating and application ideas using this emulsifier product. You can also check out our line of pre-blended 219 water dilute-able micro emulsions. Typical DL-219A micro emulsions start with (2) parts emulsifier, (1) part d-limonene and then diluted from 5 to 25 parts water.

DL-219B – D-Limonene Emulsion Concentrate consists of 2 parts emulsifier and 1-part d-limonene to create a 100% active concentrate.

DL-219C – D-Limonene Micro Emulsion consists of 50% DL-219B Concentrate mixed with 50% water for a 50% active concentrate.

DL-219E – D-Limonene Micro Emulsion consists of 25% DL-219B Concentrate mixed with 75% water for a 25% active concentrate.

DL-219F – D-Limonene Micro Emulsion consists of 12.5% DL-219B Concentrate mixed with 87.5% water for a 12.5% active concentrate.

DL-219ES – Soy Emulsion is a 50% active micro emulsion using the DL-219A Emulsifier with soy methyl ester as the solvent portion to create a super high flash point, highly active, water dilute-able micro emulsion.

HMIS Information

(A, ES)

- > Health 1
- > Flammability 0
- > Reactivity 0

(C, E, F)

- > Health 1
- > Flammability 2
- > Reactivity 0

(B)

- > Health 2
- > Flammability 2
- > Reactivity 0

Physical Properties

Type:	A	B	C	E	F	ES
Boiling Point @ 760mmHg, (initial):	>200°F	212°F	212°F	212°F	212°F	308-335°F
Vapor Pressure @ 80°F:	<0.1mmHg	<1 mmHg	<1mmHg	<1mmHg	<1mmHg	<0.1mmHg
% Volatile by Volume:	14%	~53%	~77%	~72%	~88%	>53%
% Volatile Organic Compound:	0%	~50%	~25%	~17%	~12%	<1%
Flash Point (TCC):	>121°F	121°F	121°F	121°F	121°F	>300°F