

Exxate[®] Acetate Ester Solvents for AgChem

Exxate[®] acetate esters are a line of high purity solvents manufactured by Hallstar that are designed for use in a range of agricultural applications such as EC's, EW's, OD's and adjuvants. These moderately polar, low VOC and low water solubility products offer many formulation advantages including varying evaporation rates, minimal odor, and very low pour points. They are miscible with commonly used adjuvant oils and pesticidal solvent systems. As compared to many other solvents, Exxate[®] acetate esters have a much improved hazard and ecotox profile.

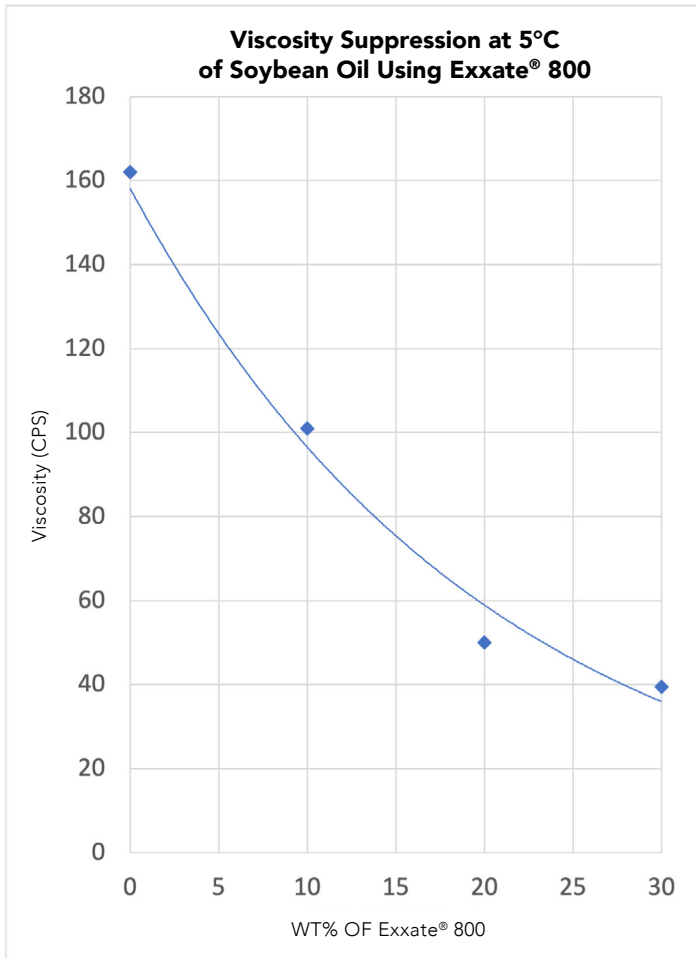
Example Solubility of Active Ingredient in Exxate[®] Solvents

Active Ingredient	Exxate [®] 800	Exxate [®] 1000
Permethrin	>75%	>75%
Deltamethrin	9%	4%
Bifenthrin	18%	16%
Beta-Cyfluthrin	12%	9%
Propiconazole	>75%	>75%
Metribuzin	12%	8%



Exxate[®] 800, 900, 1000, and 1300 all appear as EPA List 4B inerts and thus qualify for potential use in organic applications under the USDA/NOP program.

Exxate[®] solvents exhibit excellent compatibility with other pesticide formulation inert ingredients and are easily emulsified with many different anionic and nonionic based surfactant systems.



Registration Status

- 40 CFR 180.920 Pre-Harvest
- EPA 4B inert list
- REACH registered (Exxate® 800 and 1300)

Toxicity Profile

- Low phytotoxicity
- Low eye irritation
- Low aquatic toxicity

Key Physical Attributes

- Low surface tension
- Hydrolytically stable across a pH range of pH 4 to pH 10
- Extremely low pour point (-70°C)
- Low water solubility (<50 ppm-200 ppm)
- Highly branched structure
- Low odor

Miscible with Common Crop Carriers and Solvents

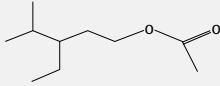
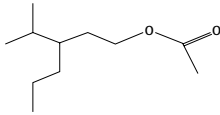
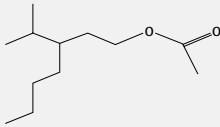
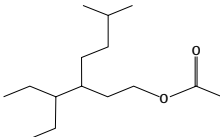
- Methylated seed oil
- Vegetable oils
- Paraffinic oils
- Petrochemical and other specialty solvents

Regulatory Hazard Profile

	FLAMMABILITY HAZARD	CARCINOGEN	NERVOUS SYSTEM TOXICANT	RESPIRATORY IRRITANT	ASPIRATION TOXICANT	ORAL TOXICITY	SKIN CORROSION	EYE IRRITANT	AQUATIC ENVIRONMENT HAZARD	ODOR
Exxate® 800	●	●	●	●	●	●	●	●	●	●
Exxate® 900	●	●	●	●	●	●	●	●	●	●
Exxate® 1000	●	●	●	●	●	●	●	●	●	●
Exxate® 1300	●	●	●	●	●	●	●	●	●	●

● No associated GHS hazard ● Combustible liquid (NFPA) Category 4 flammable liquid (GHS)

Physical Characteristics and Chemical Structures

PRODUCT NAME	CAS#	AVERAGE CARBON	VAPOR PRESSURE kPa @ 20°C	RELATIVE EVAPORATION RATE 1=n-ButylAc	FLASH POINT °C	SPECIFIC GRAVITY	DIELECTRIC CONSTANT	HILDEBRAND SOLUBILITY	WATER MISCIBILITY ppm	STRUCTURE
Exxate® 800	108419-32-5	8	0.75	0.033	77	0.875	4.166	8.3	200	
Exxate® 900	108419-33-6	9	0.24	0.012	93	0.873	4.082	8.0	200	
Exxate® 1000	108419-34-7	10	0.09	0.006	100	0.873	3.992	7.9	< 50	
Exxate® 1300	108419-35-8	13	0.03	0.001	132	0.879	3.748	7.8	< 50	

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