

# Glufosinate

Glufosinate is a herbicide for use on a variety of crops, including corn, cotton, canola and soybeans that has been growing in popularity. The effectiveness of this naturally occurring, broad-spectrum herbicide against broadleaf and grass weeds has made it a trusted formulation for farmers. Stepan Agricultural Solutions offers a range of glufosinate ammonium adjuvants that provide improved spreading and stickiness on target surfaces to increase contact time and adsorption.

Stepan offers three formulated blends to meet your glufosinate adjuvant needs.

Product	Loading (g/L a.e.¹)	Contains AES <sup>2</sup> and/or APG <sup>3</sup>	U.S. EPA Clearances	Signal Word Glufosinate 280g/L
STEPGROW™ GL 101	280 g/L	Yes AES/ Yes APG	40 CFR 180.920 (not to exceed 75% in a pesticide formulation)	Warning
STEPGROW GL 102	280 g/L	Yes AES/ No APG	40 CFR 180.920 (not to exceed 74% in a pesticide formulation)	Warning
STEPGROW GL 103	280 g/L	No AES/ No APG	40 CFR 180.910 and 180.920	Caution

## STEPGROW GL 101 & STEPGROW GL 102

Stepan's glufosinate ammonium adjuvants, STEPGROW GL 101 and STEPGROW GL 102 (non-APG containing), are formulated anionic/nonionic blends that were developed for use as pre-blends in a 280 g/L soluble liquid formulation. Both products are based on alcohol ether sulfate (AES) technology and have demonstrated high efficacy in field trials. Our formulation experts can help tailor differentiated formulations with alkyl polyglucoside (APG) and with alternative additives to meet your specific requirements.

### **STEPGROW GL 101**

Components	Weight %	Purpose in Formulation
Glufosinate Ammonium	24.50	Active Ingredient
STEPGROW GL 101	54.59	Surfactant/Solvent
Deionized Water	20.91	Diluent

# PHYSICAL PROPERTIES

Density at 25°C (U.S. lbs/gal): 9.57 Specific gravity at 25°C: 1.10 Moisture (%): 23 pH at 10% aqueous: 9.60 Viscosity at 25°C (cps): 212 Pour point (°C): 0 Flash point, PMCC (°C): >94

# **STEPGROW GL 102**

Components	Weight %	Purpose in Formulation
Glufosinate Ammonium	24.50	Active Ingredient
STEPGROW GL 102	54.59	Surfactant/Solvent
Deionized Water	20.91	Diluent

# PHYSICAL PROPERTIES

Density at 25°C (U.S. lbs/gal): 9.20 Specific gravity at 25°C: 1.10 Moisture (%): 22 pH at 10% aqueous: 8.40 Viscosity at 25°C (cps): 181 Pour point (°C): -3 Flash point, PMCC (°C): >94

## **STEPGROW GL 103**

STEPGROW GL 103 was developed as a formulated nonionic blend designed for use as a preblend in 280 g/L glufosinate ammonium-soluble liquid formulations. This pre-blend adjuvant offers an improved safety profile because its eye irritancy rating changes the SDS label from a "Warning" signal word to a "Caution" signal word.

### STEPGROW GL 103 key attributes:

- Nonionic surfactant blend
- Tallow amine and ether sulfate free
- · Caution signal word
- Low pour point to ensure ease of use

Components	Weight %	Purpose in Formulation
Glufosinate Ammonium	24.50	Active Ingredient
STEPGROW GL 103	58.10	Emulsifier
Deionized Water	17.40	Solvent

#### **PHYSICAL PROPERTIES**

Density at 25°C (U.S. lbs/gal): 9.00 Specific gravity at 25°C: 1.10

Moisture (%): 34

pH at 10% aqueous: 7.90 Viscosity at 25°C (cps): 13

Pour point (°C): -17

Flash point, PMCC (°C): >94





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