

FulTime® Herbicide:

Supplement to Bulk Storage and Handling Guide

This product-specific information supplements the Dow AgroSciences “Bulk Storage and Handling Guide”. Use these documents together to understand the requirements for a bulk storage facility of this product.

The Bulk Storage and Handling Guide is available at <http://www.dowagro.com/rc/steward/handling.htm>

General Storage Comments								
FulTime herbicide is a suspension that requires mixing in bulk.								
CAUTION: Make sure that small amounts of oils or petroleum solvent based products (e.g. Surpass EC) are not present in tanks converted to FulTime. Small amounts of could cause thickening.								
Product Density vs. Temperature								
Temperature °F (°C)	20 (-7)	30 (-1)	40 (4)	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)
Density (lb./gal.)	9.73	9.70	9.67	9.64	9.61	9.58	9.56	9.53
Flash Point, NFPA Rating, Storage Temperature, and Signal Word								
Flash Point l °F (°C)	NFPA 704 Diamond Ratings			Min. Storage Temperature °F (°C)		EPA Signal Word		
	Health	Flammability	Reactivity					
>200 (>93)	2	1	0	None		Caution		
Formulation contains water and will freeze, but has no history of problems upon thaw. Circulate product after thaw. Drain plumbing for protection against freeze damage.								
Material / Product Compatibility	Rating	Comment						
Aluminum, Glass-lined Steel, Carboline Phenoline 300/302 Lining	OK							
Polyethylene (crosslinked, high-density, low-density), Ryton, Teflon, Polypropylene, Viton	OK							
Stainless Steel	Caution	OK to use. Do not have crevices or cracks exposed to product; use butt welds only.						
EPDM, Nylon	Caution	Some swelling, but acceptable for hoses.						
Mild Steel	No	Moderate corrosion due to water in formulation. Mild steel pipe not recommended.						
Cast Iron	OK	Some corrosion, but experience shows acceptable use in pumps, meters, fittings.						
Bulk Tank Material of Construction and Requirements								
Material of Construction	Stainless steel is preferred. Mild steel tanks are not allowed due to corrosion from aqueous product. If state and local laws permit, existing polyethylene storage tanks may be utilized if the tank is free of cracks, UV degradation or other signs of aging or structural defects. Dow AgroSciences will not bear risk or liability associated with the use of polyethylene bulk tanks.							
Venting Requirements	Self-closing PVRV Required on this product to minimize moisture loss from the formulation, avoiding any surface “skinning” or formulation evaporation.							
Couplers	Standard 2” Kamlok ² Style Adapter with cap for receiving bulk deliveries.							

¹ The flash point of a liquid is the minimum temperature at which it gives off sufficient vapor to form an ignitable mixture with the air near the surface of the liquid or within the test vessel used.

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Mixing Requirement	<p>Circulate twice the tank volume after each delivery and just before the season.</p> <p>The active ingredients of these suspension products do not tend to separate or stratify, but viscosity can increase if product is allowed to dry out, sit without mixing, or be exposed to extended heat. Shearing the product with a pump reduces viscosity of thickened product. Site the tank, if possible, in the shade or indoors to avoid extreme heat.</p>
Pump	<p>Three horsepower pump motors as a minimum are required; however, five horsepower motors are highly recommended for all products. A double mechanical seal pump is recommended for products containing suspended solids to extend seal life. Double mechanical seals are recommended, but not required for other products.</p>
Refillable Container Handling	
DOT	<p>Not regulated by US Department of Transportation; however, containers must meet EPA requirements specified in the Pesticide Container & Containment Rule.</p>
Material of Construction	<p>Stainless steel is preferred. Polyethylene refillable containers allowed. Mild steel tanks are not allowed due to potential for corrosion.</p>
Mixing	<p>Preferably, store in bulk tanks rather than refillable containers during the off-season.</p> <p>Or, circulate for an hour or at least twice the tank volume just before and then weekly during the use season.</p> <p>The active ingredients of these suspension products do not tend to separate or stratify, but viscosity can increase if product is allowed to dry out, sit without mixing, or be exposed to extended heat. Shearing the product through a pump reduces viscosity of thickened product. Site the tank, if possible, in the shade or indoors to avoid heat.</p> <p>FulTime stored in refillable containers in the off-season can be sheared or mixed by pumping the entire contents over to another refillable container prior to the season.</p> <p>Avoid allowing small heels of product to stand between seasons.</p>
Couplers	<p>Standard</p>

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