

Instinct NXTGEN™ Nitrogen Stabilizer

Supplement to Bulk Storage and Handling Guide

This product-specific information supplements the Corteva Agriscience™ “Bulk Storage and Handling Guide”. Use these documents together to understand the requirements for a bulk storage facility of this product. To obtain additional copies of this Bulk Storage & Handling Guide, or this product-specific Supplement, see <https://BulkHandlingGuides.corteva.us> or contact your Corteva Territory Manager or Sales Representative.

General Storage Comments

IMPORTANT NOTE: If this is the first time Instinct NXTGEN™ nitrogen stabilizer is being added to a Bulk Storage tank that was previously used for Instinct II or Instinct HL, it is critical that the tank be cleaned prior to adding the Instinct NXTGEN to the tank.

From Instinct II: Remove all visible traces of Instinct II and debris, if any, from the tank, pump, and all supporting pipes and hoses. Instinct II can be cleaned from the tank and pipes using water, and soap may be used. Visually inspect tank walls to ensure sides and bottom are clean.

From Instinct HL: Thoroughly clean and triple-rinse/flush / hydro-blast tank, pump, and all supporting pipes and hoses to ensure all traces of Instinct HL are removed from the tank and all supporting equipment/piping.

All waste water must be collected and properly disposed of following local regulations. Failure to clean the tank, pump, pipes and hoses prior to the addition of Instinct NXTGEN can impact the stability of the Instinct NXTGEN. This recommendation applies to all mini-bulk and other tote containers used to transfer or store Instinct NXTGEN.

Instinct NXTGEN nitrogen stabilizer is a capsule suspension of nitrapyrin. Maintaining a capsule suspension in storage may require some different practices than other formulations. Please follow the guidelines to protect the integrity of the product and to minimize the opportunity for unintended release to the environment. As with most suspension products, slight separation of ingredients can occur. Storage tanks, including stationary bulk tanks and portable refillable containers, require circulation or mixing capabilities.

Regular mixing in the off-season at a set frequency is NOT required for Instinct NXTGEN.

Prior to first use in-season, the bulk tank should be recirculated long enough to provide 3 turns of the product. Example: 5000 gallons of product stored in a tank with a recirculation pump that has a capacity of 17 gallons/minute (~1000 gallons/hour), would require roughly 15 hours of recirculation.

The bulk tank should be assessed weekly during the application season, and the bulk tank should be recirculated additionally only if significant top clearing is observed.

Valves at the bottom of the storage tank and on the discharge side of the pump are recommended to allow removal of the pump if necessary.

The use of jet mixers within the tank are also highly recommended to increase the mixing capabilities of the recirculation system.

The use of air to clear pump/lines should be minimized, and air must NOT be used to mix/agitate this product.

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Do NOT use mild steel tanks for bulk storage of Instinct NXTGEN.

Stainless steel piping is required for all storage facilities. Use mild steel piping with caution and for temporary use of less than one month. The long term use of mild steel piping can result in unexpected pipe failure during mixing or transfer operations which will result in product loss.

Polypropylene can be used for short term storage such as Instinct NXTGEN packaged in totes. Long term storage testing of poly and fiberglass has not been completed and therefore cannot be recommended for use at this time.

Periodic cleaning of bulk tanks is recommended. Tanks should be cleaned and inspected every two to three years. Tanks can easily be cleaned using normal high pressure washers with a general soap cleaning solution. High pressure washers are recommended because they are efficient at cleaning the tanks and they generate minimal waste water. Waste water from cleaning the tanks must be collected and disposed following local regulations and guidelines.

After cleaning, the tank should be inspected for signs of corrosion or pitting on interior surfaces and welds to prevent tank failures when the tank is refilled.

Product Density vs. Temperature

Temperature °F (°C)	27.5 (-2.5)	32 (0)	41 (5)	50 (10)	59 (15)	68 (20)	77 (25)	86 (30)
Density (lb./gal.)	10.07	10.05	10.03	10.00	9.98	9.96	9.93	9.91

Flash Point, NFPA Rating, Storage Temperature, and Signal Word

Flash Point ¹ °F (°C)	NFPA 704 Diamond Ratings			Min. Storage Temperature °F (°C)	EPA Signal Word
	Health	Flammability	Reactivity		
>200	0	1	0	None*	CAUTION

*Product contains water and will freeze at approximately 14° F product temperature (not air temperature) and pumpability becomes challenged at 23°F (product temperature). Any piping between the valve and tank should be wrapped with heat wrap when air temperatures are consistently below freezing. Instinct NXTGEN has no history of problems upon thaw. Circulate product after thaw per guidelines in General Storage Comments. Close spring-loaded emergency valves and drain plumbing for protection against freeze damage for winterization.

See “Product Information & Safety” section of Bulk Storage & Handling Guide for more information.

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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Material / Product Compatibility	Rating	Comment
Stainless Steel	OK	Required for bulk tanks. Recommended for portable refillable containers
Silicone, Teflon	OK	Recommended for gaskets and seals
Viton	OK	Slight swelling. Grades vary in performance but standard Viton OK for most uses. High temperature Viton or Highly Fluorinated Viton grades likely to perform better than Low Temperature Viton.
Delrin, neoprene, polyurethane, butyl, SBR, Nylon, PVC	NO	Will likely absorb product and lose tensile strength. Swelling or disintegration possible.
Aluminum, Zinc, Tin	NO	Corrosion
Hypalon	NO	Potential severe swelling and absorption
Polyethylene	CAUTION	High density likely to perform slightly better than low density. Likely acceptable for most applications, including hose lining.
Buna FDA, Buna N, EPDM	NO	Swells moderately and absorbs product. Likely OK for short term exposure or trapped gasket applications.
Mild Steel	NO	Corrosion. And corrosion is more severe when coupled to stainless steel
High density polypropylene	CAUTION	Some distortion and swelling. Some loss of tensile strength.
Low density polypropylene	CAUTION	Swells and loses tensile strength.
Copper, brass, bronze	CAUTION	Slight corrosion, and corrosion is more severe when coupled to stainless steel

Bulk Tank Material of Construction and Requirements

Material of Construction	Stainless steel bulk tanks required.
Venting Requirements	Normal pressure / vacuum relief venting (PVRV) is required. Emergency vent not required. An air drier is not required.
Couplers	Standard couplings are acceptable.
Pumps	A Scot Pressurseal pump is required for Instinct NXTGEN tanks. Normal transfer pumps are acceptable for refillable containers. For product recirculation, which is critical for product quality, a diaphragm pump is not acceptable. Centrifugal pumps are recommended.
Screens	50 mesh or larger screens are recommended when using Instinct NXTGEN.
Clean Up	Small spillage below the reportable spill quantity of Instinct NXTGEN, a water based formulation, which can be cleaned up with soap and water. Dispose of cleaning water following all local regulations.

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Refillable Container Handling

DOT / EPA	This product is not regulated by US Department of Transportation for various modes of transport. Container must meet EPA Pesticide Container and Containment Rule requirements. Use UN/DOT approved containers. See Corteva bulk guide for additional general requirements.
Material of Construction	Stainless Steel and Polyethylene refillable containers are both acceptable. Refillable containers should not be used for long term bulk storage.
Mixing	Instinct NXTGEN should be mixed well just prior to the use season. It is recommended that the refillable containers are not stored full during the off-season as mixing will become more difficult. The need to mix in-season is defined per the General Storage Comments Section above.
Couplers	Standard couplers are acceptable.

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