

Instinct® II Nitrogen Stabilizer: *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/stewardship/agchemicals/handling_guides.htm

General Storage Comments

Instinct® II nitrogen stabilizer is a capsule suspension of nitrpyrin. 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,

The Instinct II tank should be recirculated just prior to the first use of the product during use season, every 1-2 weeks during the use season and monthly during the off season. Recirculation is required to keep the product uniform and to prevent the build up of sediments at the bottom of the tank. The tanks should be recirculated long enough each time to provide 2.5 turns of the product. Example: 5000 gallons of product stored in a tank and the recirculation pump has a capacity of 17 gallons/minute or 1000 gallons/hour then you would need to recirculate the tank for 12.5 hours.

Recirculation is not recommended if the product is frozen or partially frozen to avoid damage to the pumps or possibly the lines. Product should not be dispensed for use if ice crystals are present since this can impact the concentration of the active ingredient in the liquid. Allow the tank to warm to melt the ice crystals, followed by recirculation prior to use. 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 as a way to increase the mixing capabilities of the recirculation system.

As with most suspension formulations, slight settling can occur. Settling is indicated by a visible dark layer at the top of the liquid. Storage tanks, including stationary bulk tanks and portable refillable containers, require circulation capability.

The product may form a soft gel when stored in very warm conditions for extended time, such as over the summer in a warm warehouse. Pumping immediately thins and blends the material. The gel appearance does not affect dispersion in UAN or efficacy.

Do not use mild steel tanks for bulk storage of Instinct II. 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 II packaged in totes. Long term storage testing of Poly and fiberglass have 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 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.

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Product Density vs. Temperature

Temperature °F (°C)		32 (0)	41 (5)	50 (10)	59 (15)	68 (20)	77 (25)	86 (30)
Density (lb./gal.)		9.45	9.43	9.41	9.38	9.36	9.33	9.31

See "Product Information & Safety" section of *Bulk Storage & Handling Guide* for more information.

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

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

*Formulation contains water and will freeze at 5°F, but has no history of problems under thaw. The formulation can expand sufficiently at -15°F to burst pipes that are full of product.

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

Material / Product Compatibility	Rating	Comment
Stainless steel	OK	Required for bulk tanks.
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, Neo-Nyl, SBR	No	Will likely absorb product and lose tensile strength. Swelling or disintegration possible.
Aluminum, zinc, or 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	Caution	Swells moderately and absorbs product. Likely OK for short term exposure or trapped gasket applications.
Mild steel.	Caution	Do not use mild steel bulk tanks. Stainless steel piping is preferred. Use mild steel piping with caution only.
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.

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Bulk Tank Material of Construction and Requirements

Construction	Stainless steel bulk tanks required. Polyethylene bulk tanks are being tested for possible future use.
Venting Requirements	Normal pressure / vacuum relief venting (PVRV) is required. Emergency vent not required.
Couplers	Standard couplings are acceptable.
Pumps	A Scot Presureseal pump is required for Instinct II bulk tanks. Normal transfer pumps are acceptable for refillable containers
Clean up	Small spillage below the reportable spill quantity of Instinct II, a water based formulation, that can be cleaned up with soap and water

Refillable Container Handling

DOT	This product is 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 DAS bulk guide for additional general requirements.
Material of Construction	Stainless Steel and Polyethylene refillable containers are both acceptable.
Mixing	Instinct II should be mixed well just prior to the use season. It is recommended that the refillable containers are not stored during the off-season as mixing will become more difficult. The need to mix in-season is required when a dark layer at the top of the formulation is > 1" thick.
Couplers	Standard couplings are acceptable.
Screens	Due to the capsule size of the formulation. Do not use screens smaller than 50 mesh.

NOTICE: The information, procedures, methods, and recommendations herein are presented in good faith and are believed to be accurate and reliable as of the publication date, but may well be incomplete and/or not applicable to all conditions or situations. No representation, guarantee, or warranty is made as to the accuracy, reliability, or completeness of said information, procedures, methods, and recommendations. Nor is any representation, guarantee, or warranty made that application or use of any of the same will avoid hazards, accidents, losses, damages, or injury of any kind to persons or property, or give desired results, or that the same will not infringe patents of Dow AgroSciences or others. Readers must satisfy themselves as to the suitability of said information, procedures, methods, and recommendations prior to use.



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