

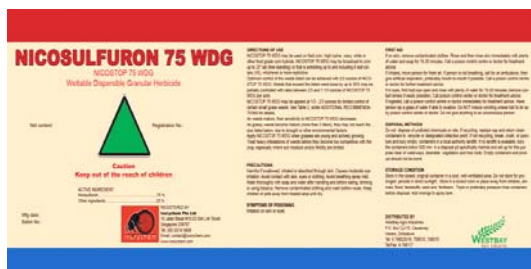
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READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT.

USE ONLY IN ACCORDANCE WITH INSTRUCTIONS.

KEEP OUT OF REACH OF CHILDREN

## NICOSTOP 75 WDG



### INGREDIENTS

Nicosulfuron.....75%  
Other ingredients .....25%

NICOSTOP 74 WDG is an effective herbicide and contains as its active ingredient, nicosulfuron.

NICOSTOP 75 WDG is applied postemergence with a non-ionic surfactant when weeds are 4-12 inches tall and actively growing. Rain within two hours of application will not decrease the effectiveness. NICOSTOP 75 WDG is used for control of weeds such as Johnsongrass, quackgrass, foxtails, shattercane, panicums, barnyardgrass, sandbur, pigweed, morningglory and others. Crops include field corn and popcorn.

NICOSTOP comes in a wettable powder formulation. It may be tank mixed with a limited number of other compounds.

Trade Names Of Other Firms: Trade names for products containing nicosulfuron include Accent, Challenger, Dasul, Lama, Milagro, Mistral, Motivel, Nisshin and Sanson.

**REGULATORY STATUS:** Nicosulfuron is a general use pesticide with a toxicity classification of IV (relatively non-toxic). Check with specific state regulations for local restrictions which may apply. Products containing nicosulfuron must bear the signal word "Caution" on their label (37).

### What is NICOSTOP 75 WDG and how does it work?

Nicosulfuron is a member of the sulfonyleurea family of herbicides. It controls weeds by inhibiting the plant enzyme acetolactate synthase, or ALS. This enzyme is not found in livestock, fish or man. Inhibiting the ALS enzyme system blocks the production of the amino acids, valine and isoleucine, essential building blocks of proteins and other plant components.

### Key Benefits of NICOSTOP 75 WDG:

1. Quick knockdown effect.
2. Highly effective against broadleaf weeds

### PRECAUTIONS

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse. Keep children or pets away from treated area until dry.

### SYMPTOMS OF POISONING

Irritation on skin or eyes.

### MEDICAL TREATMENT

No specific antidote is available. Treatment is symptomatic.

### FIRST AID

If on skin, remove contaminated clothes. Rinse and then rinse skin immediately with plenty of water and soap for 15-20 minutes. Call a poison control centre or doctor for treatment advice. If inhaled, move person for fresh air. If person is not breathing, call for an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control centre or doctor for further treatment advice. If in eyes, first hold eye open and rinse with plenty of water for 15-20 minutes (remove contact lenses if easily possible). Call poison control center or doctor for treatment advice. If ingested, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless told to do so by poison control center or doctor. Do not give anything to an unconscious person.

### DIRECTIONS OF USE

NICOSTOP 75 WDG herbicide is a water-

dispersible granule used at a rate 1/3 - 1 1/3 ounces per acre for selective postemergence grass weed control in field corn grown for seed or grain, popcorn and sweet corn.

Do not make more than two applications of NICOSTOP 75 WDG per cropping season. The combined dosage of sequential applications cannot exceed 1 1/3 ounces per acre of NICOSTOP 75 WDG.

**WHEN TO APPLY**

**NORMAL PLANNED USE**

NICOSTOP 75 WDG may be used on field corn, high lysine, waxy, white or other food grade corn hybrids. NICOSTOP 75 WDG may be broadcast to corn up to 20" tall (free standing) or that is exhibiting up to and including 6 leaf collars (V6), whichever is more restrictive.

**Timing to Weeds**

Apply NICOSTOP 75 WDG when grasses are young and actively growing, but before they exceed the sizes indicated in Table 1. Treat heavy infestations of weeds before they become too competitive with the crop, especially where soil moisture and/or fertility are limited.

NICOSTOP 75 WDG provides weed control via foliar absorption. NICOSTOP 75 WDG only controls those weeds that have emerged. For later-emerging weeds, a second application or a timely cultivation is required. Applications made to weed larger than the size indicated on this label or to weeds under stress may result in unsatisfactory control. Refer to LATE OR RESCUE APPLICATIONS.

**LATE OR RESCUE APPLICATIONS**

NICOSTOP 75 WDG may be applied to field corn as a rescue treatment for the control of escaped grasses, or as a directed postemergence application on corn that is taller than 20" or which has more than 6 collars (which ever occurs first).

- For corn 20" to 36" tall, apply NICOSTOP 75 WDG with drop nozzles only and avoid spraying into the whorl of cornstalks.
- Do not apply to corn that is taller than 36" or that exhibits 10 or more collars (V10), whichever is most restrictive. Applications made to weeds larger than those listed on this label may vary from complete control to suppression. Level of control will depend on the weed species, stage of growth, and environmental conditions.

Due to the unplanned nature of rescue applications, choices must be made between the risks that arise from applications made beyond the proper time for NICOSTOP 75 WDG use, and the effects of season long grass competition and/or harvest complications.

These choices must balance risks from

improperly timed NICOSTOP 75 WDG use that include, but are not limited to:

- Yield loss due to competition: Research indicates competition from foxtail exceeding 4 inches in height may reduce corn yields. Applications to foxtail and other annual grasses that exceed the sizes stated on the label increases the risk of yield losses due to prolonged competition with the crop even though control may be acceptable.
- Incomplete control of grasses beyond labeled size: Applications to grasses that exceed the labeled sizes can result in reduced control. This incomplete control may reduce corn yield.
- Incomplete grass control due to herbicide stress: Grasses under stress from previous herbicide applications may not be actively growing and susceptible to NICOSTOP 75 WDG. This stress may reduce grass control in "rescue" situations.
- Ear malformation: Applications of NICOSTOP 75 WDG on corn that has 7 to 10 collars (V7 to V10) increases the potential for ear malformation (pinching). This risk may be greatly reduced, but not eliminated, by using drop nozzles properly adjusted so as to not apply NICOSTOP 75 WDG into the corn whorl.

**RATE**

Optimum control of the weeds listed can be achieved with 2/3 ounces of NICOSTOP 75 WDG. Weeds that exceed the listed weed sizes by up to 50% may be partially controlled with rates between 2/3 and 1 1/3 ounces of NICOSTOP 75 WDG per acre.

NICOSTOP 75 WDG may be applied at 1/3 - 2/3 ounces for limited control of certain small grass weeds. See Table 2, under ADDITIONAL RECOMMENDATIONS for details.

As weeds mature, their sensitivity to NICOSTOP 75 WDG decreases.

As grassy weeds become mature (more than 3 tillers), they may not reach the size listed below, due to drought or other environmental factors. Grassy weeds that are maturing rapidly should be treated before they reach the stages listed below. When applied as directed, NICOSTOP 75 WDG will control the following weeds:

**Weeds controlled with 2/3 ounces NICOSTOP 75 WDG.**

Grasses or Diameter	Maximum Height
Barnyardgrass	4"
Broadleaf signalgrass	2"
Foxtails (bristly, giant, green, yellow)	4"

Itchgrass	6"
Johnsongrass	
• seedling	12"
• Rhizome	18"
Panicum (Texas, browntop)	3"
fall	4"
Quackgrass*	10"
Ryegrass (Italian, perennial)	6"
Sandbur (field, longspine)*	3"
Shattercane	12"
Sorghum alnum	12"
Timothy	6"
Volunteer cereals (barley, oats, rye, triticale, wheat)	6"***
Wild oats	4"
Wild proso millet	4"
Wirestem muhly*	8"
Witchgrass	6"
Woolly Cupgrass*†	4"

\* Requires the use of COC plus ammonium nitrogen fertilizer. Cultivation or re-treatment may be required. See "FOR ADDITIONAL CONTROL OF LATER EMERGING GRASSES"

\*\*\*10 inches in the states of WA, OR, ID, and MT, where the use of MSO adjuvants are preferred. See SPRAY ADJUVANTS.

Broadleaves	Maximum Height or Diameter
Burcucumber	3"
Dandelion	6"
Hemp dogbane*	4"
Jimsonweed	3"
Morningglory	
• (ivyleaf, pitted)	3"
• tall	2"
Pigweed (redroot, smooth)	4"
Pokeweed*	4"
Smartweeds (ladysthumb, PA)	4"
Thistle, Canada*	4"

\* Suppression

### SPRAY ADJUVANTS

Applications of NICOSTOP 75 WDG must include either a crop oil concentrate or a nonionic surfactant. In addition, an ammonium nitrogen fertilizer must be used unless specifically prohibited by tank mix partner labeling. Crop oil concentrate plus ammonium nitrogen fertilizer is the preferred adjuvant system for activity on difficult to control species such as woolly cupgrass, quackgrass, sandbur and wirestem muhly. Consult local fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with NICOSTOP 75 WDG, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

### Crop Oil Concentrate (COC) - Petroleum or Modified Seed Oil (MSO)

- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions. MSO adjuvants may be used at 0.5% v/v if specified on local product literature or service policies.
- MSO adjuvants may be used at 0.5% v/v (0.5 gallons per 100 gallons spray solution) if specifically noted on adjuvant product labeling.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

### Nonionic Surfactant (NIS)

- Apply at 0.25% v/v (1 quart per 100 gallons spray solution) or 0.5% under arid conditions.
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

### Ammonium Nitrogen Fertilizer

- Use 2 quarts/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 pounds/acre of a spray-grade ammonium sulfate (AMS). Use 4 quarts/acre UAN or 4 pounds/acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

### Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved.

### MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of NICOSTOP 75 WDG.
3. Continue agitation until the NICOSTOP 75 WDG is fully dispersed, at least 5 minutes.
4. Once the NICOSTOP 75 WDG is fully dispersed, maintain agitation and continue filling tank with water. Thoroughly mix NICOSTOP 75 WDG with water before adding any other material.

5. As the tank is filling, add the required spray adjuvants (crop oil concentrate, nonionic surfactant, or ammonium nitrogen fertilizer).
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply NICOSTOP 75 WDG spray mixture within 24 hours of mixing to avoid product degradation.
8. If NICOSTOP 75 WDG and a tank mix partner are to be applied in multiple loads, pre-slurry the NICOSTOP 75 WDG in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the NICOSTOP 75 WDG.

#### DISPOSAL METHODS

Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

#### STORAGE CONDITION

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, flood, feedstuffs, seed and fertilizers. Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank.

For More Details including effects on environment email [contact@ivorychem.com](mailto:contact@ivorychem.com) with Subject "NICOSTOP 75 WDG DETAILS"

More Details:

#### TOXICOLOGICAL EFFECTS

- Acute Toxicity: The amount of a chemical that is lethal to one-half (50%) of experimental animals fed the material is referred to as its acute oral lethal dose fifty, or LD50. The toxicity of nicosulfuron varies. The acute oral LD50 for technical nicosulfuron was reported to be >5,000 mg/kg body weight (toxicity category IV). The acute dermal LD50 was >2,000 mg/kg body weight (toxicity

category IV). The acute inhalation LC50 was >5.9 mg/L (toxicity category III). Primary dermal irritation testing showed nicosulfuron to be a non-irritant and a non-sensitizer (toxicity category IV). The primary eye irritation testing showed nicosulfuron to be a moderate irritant (toxicity category III) (46, 37, 48, 50, 51).

- Chronic Toxicity: A ninety-day subchronic toxicity study reported no effects up to 20,000 ppm for rats and dogs and 300 ppm for mice (46). In 28-day feeding trials to mice and rats, no adverse effects were noted up to 30 gm/kg (48, 51). In a 1-year feeding study, dogs were treated with nicosulfuron at doses of 0, 250, 5000, or 20000 ppm. The systemic NOEL of 5000 ppm for males and 20,000 ppm for females (or 147 and 587 mg/kg body weight/day, respectively) is based on a decrease in body weight gains and a concomitant increase in relative liver and kidney weights in males (49, 50, 51).
- Reproductive Effects: In a multigeneration reproduction study, rats were fed doses of 0, 12.5, 287, and 1,269 mg/kg body weight/day. The NOEL for systemic toxicity is 287 mg/kg/day with a lowest-observable-effect level (LOEL) of 1,269 mg/kg/day, based on F1 (first mating) females with a lower body weight gain during the final week of gestation and a similar pattern in the F0 females during the same gestational period, and in pup weights at postpartum day 14 through 21 in the F2a high dose group. The reproductive NOEL is 287 mg/kg/day with a LOEL of 1269 mg/kg/day based on minimal reduction in litter size at birth (49, 50, 51).
- Teratogenic Effects: A rat teratology study using doses of 0, 186, 930, 2325, and 5581 mg/kg/day showed no a developmental or maternal effects up to 5581 mg/kg/day, the highest dose tested. The maternal and developmental LOEL is greater than 5581 mg/kg/day. No treatment-related effects were noted on maternal or developmental toxicity up to and including 5581 mg/kg/day, the highest dose tested (50). A rabbit teratology study using doses of 0, 93, 465, 930, and 1860 mg/kg/day of NICOSTOP 75 WDG yielded a maternal NOEL of 93 mg/kg/day and LOEL of 465 mg/kg/day based upon maternal toxicity occurring at 465 mg/kg/day; an increase in clinical signs, gross pathological observations, abortions, postimplantation loss and a decrease in

- body weight gain during the dosing period. The developmental NOEL of 465 mg/kg/day and LOEL of 930 mg/kg/day is based upon developmental toxicity occurring at 930 mg/kg/day; reduced mean fetal body weight and the apparent increase in postimplantation loss at 465 mg/kg/day and above (50).
- **Mutagenic Effects:** No mutagenic activity was observed when tested in four strains of *Salmonella typhimurium*. In vitro chromosomal aberration test in cultured human lymphocytes indicated negative responses at the concentrations from 40 to 470 ug/ml. Nicosulfuron assayed with or without metabolic activation in vitro in Chinese Hamster Ovary cells was nonmutagenic at the concentrations from 4 to 465 ug/ml and a micronucleus assay in mouse bone marrow cells was negative at dose levels from 500 to 5,000 mg/kg. A DNA synthesis study in rat hepatocytes (liver cells) did not cause any DNA damage in the cells at concentrations from 0.04 to 470 ug/ml (46, 49, 50).
  - **Carcinogenic Effects:** A 2-year chronic toxicity/oncogenicity study with male and female rats fed dosages of 0, 1.9/2.6, 58.1/77.1, 289/382, and 786/1,098 mg/kg body weight/day showed no effects up to 786 mg/kg/day in males and 1,098 mg/kg/day in females, the highest dose tested. The systemic LOEL is greater than 786 mg/kg/day and 1,098 mg/kg/day for male and female rats, respectively (49, 50). In an 18-month oncogenicity study, male and female mice administered dosages of 0, 3.3/4.4, 32.7/44.8, 327/438, and 993/1312 mg/kg body weight/day resulted in no effects up to 993 and 1312 mg/kg/day, the highest dose tested for male and female mice, respectively (49, 50).
  - **Organ Toxicity:** No information was found.
  - **Fate in Humans and Animals:** Five groups of rats, 5 males and 5 females, were dosed in various sequences with either 10 mg/kg or 1,000 mg/kg of [pyridinyl-14C]-DPX-V9360 or [pyrimidinyl-14C]DPX-V9360 either orally or intravenously. Both males and females excreted essentially all of the radionuclide in the feces and urine. Elimination of 14C-CO<sub>2</sub> was not observed. No organ or tissue showed total 14C-radioactivity >0.01% of the administered dose. The major radioactivity was recovered as the

parent which ranged from 85 to 97%. Two metabolites, pyridine sulfonamide and 5-hydroxy pyrimidine amine, were identified. The presence of pyridine acid sulfonamide was also suggested, but not positively identified. Several undefined metabolites makeup <10% total recovered radioactivity (TRR). Based on the metabolites identified, the major pathway in the rat is cleavage of the parent DPX-V9360, to yield pyridine sulfonamide and pyrimidine amine; 5-OH pyrimidine amine could be formed either before or after the cleavage (50).

#### ECOLOGICAL EFFECTS

- **Effects on Birds:** Nicosulfuron is slightly toxic to birds on an acute and dietary basis. The oral LD<sub>50</sub> for bobwhite quail was >2,250 mg/kg. The dietary LC<sub>50</sub>s for mallard ducks and bobwhite quail were >5,620 ppm (46, 37, 50, 51).
- **Effects on Aquatic Organisms:** Nicosulfuron is practically non-toxic to freshwater fish and invertebrates. The 96 hour LC<sub>50</sub> for bluegill and rainbow trout is >1,000 mg/L. The 48 hour EC<sub>50</sub> for *Daphnia magna* is >1,000 mg/L (1, 37, 50).
- **Effects on Other Animals (Nontarget species):** Nicosulfuron has an acute contact toxicity LD<sub>50</sub> >20 ug/bee and an acute dietary LC<sub>50</sub> >1000 ppm. It is considered practically non-toxic to honey bees (50, \*).

#### ENVIRONMENTAL FATE

- **Breakdown of Chemical in Soil and Groundwater:** Biodegradation is an important degradation mechanism for nicosulfuron. The half-life of nicosulfuron in a silt clay soil is 26 days. However, anaerobic conditions slow down the degradation process. The half-life of nicosulfuron in silt clay soil/water is 63 days. The main degradates are pyridine sulfonamide and pyrimidine amine (47, 38, 50). Nicosulfuron is very mobile in sandy loam and silt loam soils. The pyridine sulfonamide degradate is more mobile than the parent compound. The pyrimidine amine degradate is the least mobile (50). The formulated product NICOSTOP 75 WDG has a photolysis half-life at 25 degrees C of 60-67 days in soil with a pH of 6.2. Field dissipation half-life of the same material was 3 weeks at pH 6.5, 7 weeks at pH 7.4, and 2 weeks at pH 8 (47). NICOSTOP 75 WDG poses minimal risk of leaching to groundwater according to calculations

using EPA's Pesticide Root Zone model (PRZM). The soil-binding characteristics and values place the herbicide in EPA's classification of low to intermediate soil mobility (46).

- Breakdown of Chemical in Surface Water: The formulated product NICOSTOP 75 WDG has a photolysis half-life at 25 degrees C of 14-19 days in water with a pH of 5, 200-250 days at a pH of 7, and 180-200 days at a pH of 9. The hydrolysis half-life of the same material is 15 days at a pH of 5 (47).
- Breakdown of Chemical in Vegetation: Foliar absorption is the primary means of nicosulfuron uptake by plants (50).

#### PHYSICAL PROPERTIES AND GUIDELINES

- It may form flammable or explosive dust-air mixtures. It is stable under normal temperatures and pressures. Thermal decomposition products may include toxic oxides of carbon, nitrogen, and sulfur (48). No corrosion or physical change was observed for the end use product after being stored at room temperature for 10 months for either solid granules or container material of construction (high-density polyethylene) (50).

#### Physical Properties:

- Appearance: Technical nicosulfuron can be recognized as white powder or colorless crystals (37).
- Chemical Name: 2-[[[4,6-dimethoxypyrimidin-2-yl)aminocarbonyl]aminosulfonyl]-N,N-dimethyl-3-pyridinecarboxamide (46)
- CAS Number: 111991-09-4 (37)
- Molecular Weight: 410.4
- Water Solubility: @ 25 degrees C: 0.04 g/100g pH=5.0; 1.2 g/100g pH=7.0; 3.9 g/100g pH=9.0 (51)
- Solubility in Other Solvents: @ 25 degrees C: 0.04 g/100g pH=5.0; 1.2 g/100g pH=7.0; 3.9 g/100g pH=9.0 (51)
- Melting Point: 141-144 degrees C (46, 50)
- Vapor Pressure:  $1.2 \times 10^{-16}$  torr at 25 degrees C (46, 50)
- Partition Coefficient: at 25 degrees C: 0.44 (pH 5); 0.017 (pH 7); 0.01 (pH 9) (47, 50)
- Adsorption Coefficient: at 25 degrees C: 15.4 (pH 4.3), Keyport Silt Loam; 78.8 (pH 5.4), Flanagan Silt Loam; 28.8 (pH 6.5), Cecil Sandy Loam; 38.4 (pH 6.6), Woodstown Sandy Loam (47)

#### Exposure Guidelines:

- ADI: 1.25 mg/kg/body weight/day (49)
- MCL: Not Available
- RfD: Not Available
- PEL: Not Available
- HA: Not Available
- TLV: Not Available



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