United States
Environmental Protection
Agency

Office of Pesticides and Toxic Substances
Office of Pesticide Programs (TS-766C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

Name of Chemical: NAPTALAM
Reason for Issuance:
Date Issued: March 31, 1985
Fact Sheet Number: 49

1. Description of chemical:

Generic Name: naptalam, naptalam sodium
Common name: naptalam (WSSA, BSI, ISO)
Trade name: Alanap-L ®
EPA Shaughnessy Code: 030702
Chemical Abstracts Service (CAS) Number: 132-66-1
Year of Initial Registration: 1949
Pesticide Type: Herbicide
Chemical family: Phthalic acid
U.S. and Foreign Producers: Uniroyal

2. Use patterns and formulations:

Application sites: Liquid and granular naptalam are used as selective preemergence herbicides for the control of a wide range of annual broadleaf weeds and grasses in soybeans, peanuts, cucumbers, melons, and established woody ornamental stock. Naptalam may also be applied after emergence on soybeans.
Types of formulations: Liquid and granular forms.
Types and Methods of Application: Planter-mounted preemergence herbicide sprayer, aerial spraying, or granular applicator. Applications may be preemergence, or postemergence in soybeans and cucurbits. One application per year, except on cucurbits, where there may be two.
Application Rates: For the liquid formulations, rates range from 2.0-6.0 lbs ai/A, except on ornamental nursery stock, where 8.0 lbs ai/A may be used. For the granular formulation, the rate is 4.3 lbs ai/A, except on cranberries, where 8.1 lbs ai/A may be used.
Usual carriers: Water is the most common carrier for liquid formulations.

3. Science Findings:

Summary science statement:

Chemical characteristics:

Physical state: solid
Color: purple
Odor: no data
Vapor pressure: not available and not required
Melting point: 185°C (acid) and 234°C (sodium salt)
Octanol/water partition coefficient: not available
Stability: not stable above pH 9.5 or above 180°C. Tends to form the imide at elevated temperatures.
Solubility:

Solvent		Naptalam	Naptalam, Sodium
Water	-	0.02	30.0
Acetone	-	0.59	1.68
Xylene	-	*	0.04
Benzene	-	*	0.05
Hexane	-	*	*
Chloroform	-	0.01	*
DMF	-	3.94	5.53
DMSO	-	4.31	140.0
Ether	-	0.11	0.01
2-propanol	-	0.21	2.09
MEK	-	0.37	0.59

* Insoluble in this solvent.

Unusual handling characteristics: Very hard water and water with low pH may cause precipitation of free acid from solution of naptalam sodium. May be incompatible with some pesticides. High electrolyte may be a problem in mixtures with soluble fertilizers.

Toxicological characteristics:

Acute Effects:

Acute Oral LD_{50} - (rats) 8.2 g/kg (naptalam), 1.7 g/kg (naptalam sodium)(Category IV)
Acute Dermal LD_{50} - not available
Acute Inhalation Toxicity - not available
Primary Eye Irritation - (rabbits) Corneal opacity in 5 of 6 animals: reversed in 4 of 6 animals at day 7. Conjunctival damage in 6 of 6 animals:, reversed in 3 of 6 animals at day 7. (Category I)

Major Routes of Exposure: Dermal is the major route, followed by ocular and inhalation.

Chronic Effects:

Oncogenicity - Mice: Negative at 5000 ppm, the highest dose tested.
Rats: data gap

Teratology - Sprague-Dawley rats: Increased maternal mortality and resorptions were noted at the mid dose level and above. NOEL for maternal and fetotoxic effects is therefore 15 mg/kg/day (lowest dose tested).

Reproduction - data gap
Mutagenicity - data gap
Chromosomal Abberation - data gap

Physiological and Biochemical Behavioral Characteristics:

Translocation: When applied to soil, naptalam is absorbed by the roots and translocated to the leaves.
Mechanism of Action: Blockage of indoleacetic acid (IAA) action.

Environmental Characteristics:

Absorption and leaching characteristics: Incomplete data indicate that naptalam is very mobile in a fine sand, a sandy loam, and a silt loam soil, and slightly mobile in muck soil. Retention of naptalam by soil is correlated with CEC and organic matter content. The submitted data are not sufficient to fill data requirements.
Microbial breakdown: Data gap
Loss from photodegradation and/or volatilization: Data gap
Resultant average persistance: Unknown
Half-life in Water: Unknown.

Ecological characteristics:

Hazards to Birds: Low toxicity, suggesting minimal hazards.
Hazards to Fish and Aquatic Invertebrates: Low toxicity, suggesting minimal hazards.
Potential Problems with Endangered Species: No hazards indicated.

Tolerance Reassessment:

List of crops and tolerances: (40 CFR 180.297)

COMMODITY	(PPM)
Cantaloups	0.1N
Cranberries	0.1N
Cucumbers	0.1N
Muskmelons	0.1N
Peanuts	0.1N
Peanuts, hulls	0.1N
Peanuts, hay	0.1N
Soybeans	0.1N
Soybeans, hay	0.1N
Watermelons	0.1N

List of food contact uses: Cantaloups, cranberries, cucumbers, muskmelons, peanuts, soybeans, watermelons.
Results of tolerance assessment: No ADI can be set at this time. The Agency will recommend that the negligible (N) classification be removed from all tolerances.

4. Summary of Regulatory Position and Rationale:

Use Classification: Not a restricted use pesticide. Low toxicity.
Groundwater Monitoring: Not required at this time. Data may be required later if warranted by environmental fate data.
New Uses: The Agency will not approve new tolerances for significant new crops until data gaps regarding acute toxicity, teratogenicity, oncogenicity, plant and animal metabolism, storage stability, reproductive effects, and environmental fate are filled.
Use, Formulation or Geographic Restrictions: Manufacturing-use products (of which there are none registered at this time) may only be formulated into end-use products intended for use as an herbicide on cucurbits, soybeans, peanuts, cranberries, or woody ornamental stock.

Unique Label warning statements:

1. Use Pattern Statements:

Labels of all MPs must bear the statement:

"For formulation into end-use herbicide products intended only for use on soybeans, peanuts, cucurbits, cranberries, or woody nursery stock."

2. Precautionary Statements

Labels of MPs and EPs must bear the statements:

a. Hazards to Humans Statements

"DANGER: Harmful if swallowed. Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear a face shield or goggles. Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse." and;

b. Statements of Practical Treatment

"If in eyes: Flush with water for fifteen minutes. Call a physician."

"If swallowed: Call a physician or Poison Control Center. Drink promptly a large quantity of milk, gelatin solution, or, if these are not available, drink large quantities of water. Avoid alcohol. NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage."

c. Environmental Hazard Statement

The following specific statements must appear on the labels of all MPs:

"Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."

The labels of EPs intended for outdoor use must bear one of the following statements, depending on the formulation of the product:

Granular products must bear the statement:

"Do not apply directly to water. In case of spills, collect for reuse or properly dispose of the granules. Do not contaminate water by cleaning of equipment or disposal of wastes."

Non-granular products must bear the statement:

"Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes."

d. Grazing Restrictions Statement

The label of all EPs registered for use on peanuts must bear the statement:

"Do not graze or feed forage or hay from treated peanuts to livestock."

The label of all EPs registered for use on soybeans must bear the statement:

"Do not harvest soybeans or soybean hay earlier than 90 days posttreatment. Do not graze or feed soybean forage or hay from treated fields to livestock."

The labels of all products must bear the appropriate container disposal statement. See Appendix IV-4 of the guidance package.

The required statements listed in the Standard must appear on the labels of all MPs and EPs released for shipment after March 1, 1986. The labels of all MPs and EPs currently in the channels of trade must be modified to include all the listed statements by March 1, 1987. After review of data to be submitted under the Standard, the Agency may impose additional label requirements.

5. Summary of major data gaps

Dates when major data gaps are due to be filled.

Data Required	Due date (Time allowed after publication of the Standard)
Description of beginning materials and manufacturing process	twelve months
Discussion of formation of unintentional ingredients	twelve months
Preliminary analysis of samples	six months
Certification of limits	six months
Odor	six months
Density, Bulk Density, or Specific Gravity	six months
Dissociation Constant	six months
pH	six months
Livestock metabolism	twenty-four months
Plant metabolism	twenty-four months
Storage stability data	twenty-four months
Magnitude of the residue for each food use	twenty-four months
Accumulation Studies (confined rotational crops)	twenty-four months
(in fish)	six months
(in non-target aquatic organisms)	six months
Dermal Toxicity	six months
Inhalation Toxicity	six months
90-day feeding (rodent, non-rodent)	twelve months
Chronic toxicity	four years
Reproduction (2-generation)	twenty-two months
Chromosomal aberration	ten months
Other genotoxic effects (DNA repair)	ten months

Data Required Under a Data Call-in Letter Sent October 31, 1984	Approximate Due Date
Hydrolysis	August 1, 1985
Photodegradation (water, soil)	August 1, 1985
Metabolism studies in lab	November 1, 1987
Mobility studies - leaching and absorption/desorption	August 1, 1985
Dissipation studies in field (soil, water)	November 1, 1987
Octanol/water partition coefficient	August 1, 1985
Oncogenicity	November 1, 1988
Teratogenicity	January 1, 1987
Water Solubility	August 1, 1985
Vapor Pressure	August 1, 1985

6. Contact person at EPA: Robert Taylor, U.S. Environmental Protection Agency, TS-767-C, 401 M Street SW, Washington, DC 20460 (703) 557-1650

DISCLAIMER: The information presented in this Chemical Information Fact Sheet is for informational purposes only and may not be used to fulfill data requirements for pesticide registration and reregistration.