

## M A T E R I A L   S A F E T Y   D A T A   S H E E T

Developmental Therapeutics Program, DCT  
 National Cancer Institute  
 Executive Plaza North, Room 831  
 6130 Executive Boulevard  
 Rockville, Maryland 20852

NSC 638850

Revision Date: February 10, 1993

## SECTION I. MATERIAL IDENTIFICATION

Common Name: UCN-01 CAS: Not available  
 Chemical Name: 2,3,10,11,12,13-Hexahydro-3-hydroxy-10-methoxy-9-methyl-  
 11-(methylamino)-9,13-epoxy-1H,9H-diindolo[1,2,3-gh:3',2',  
 1'-lm]pyrrolo[3,4-i]-[1,7]benzodiazonin-1-one  
 Molecular Weight: 483  
 Molecular Formula:  $C_{28}H_{26}N_4O_4$   
 Other Designations: NSC 638850

## SECTION II. INGREDIENTS AND HAZARDS

Ingredient Name	Percent	Exposure Limits
NSC 638850	100%	NOT YET ESTABLISHED

## Toxicity Data:

## In Vitro Activity:

NSC 638850 has been designated as a potent toxin based on its inhibition of cell growth in vitro; it shows an  $MLGI_{50}$  against cancer cells of  $10^{-7.6}$  molar in the NCI tumor panel screen.

## In Vivo Activity:

A 24 hr subcutaneous infusion of 40 mg/Kg ( $120\text{mg/m}^2$ ) is lethal to mice. Dogs tolerated a 24 hour of 34  $\mu\text{g/Kg/hr}$  (total dose,  $16.3\text{ mg/m}^2$ ).

## SECTION III. PHYSICAL DATA

Appearance &amp; Odor: Pale yellow needles

MP: 245-250°C  
 Solubility (%): N/A

BP: N/A

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point: UNKNOWN                      Autoignition Temperature: UNKNOWN  
Flammability Limits: LEL %: UNKNOWN                      UEL %: UNKNOWN

Extinguishing Media: Water, carbon dioxide, or dry chemical as appropriate to the surrounding fire.

Unusual Fire or Explosion Hazards: No unusual fire or explosion hazard is known to exist.

Special Fire-fighting Procedures: Evacuate personnel to a safe area. Fire fighters should use protective clothing and a self-contained breathing apparatus.

Hazardous Combustion Products: Thermal decomposition may yield carbon monoxide and other toxic substances. Since specific products of combustion are unknown, as a precaution, they should be assumed to be hazardous.

SECTION V. REACTIVITY DATA

Compound Stability: Stability studies have not yet been carried out.

Chemical Incompatibilities: Unknown at this time

Conditions To Avoid: Unknown at this time

Hazardous Decomposition Products: Unknown at this time.

SECTION VI. HEALTH HAZARD INFORMATION

Summary of Risks: The carcinogenicity and teratogenicity of NSC 638850 are not known at this time.

Primary Entry Routes: Inhalation, ingestion, and skin and/or eye contact.

Target Organs: The target organs of toxicity in animals are not known at this time.

Signs & Symptoms of Overexposure: The effects of overexposure to this drug in the workplace are not known. It is anticipated that acute or chronic overexposure could lead to damage of bone marrow, liver, kidney, lymphoid tissue, GI tract and possibly reproductive organs or could be fatal. NSC 638850 is cytotoxic and will produce severe toxic effects to rapidly dividing tissues upon overexposure.

Acute Effects: UNKNOWN

Chronic Effects: UNKNOWN

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Medical Conditions Which May Be Aggravated By Contact: UNKNOWN

For Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult an ophthalmologist.

For Skin Contact: Remove contaminated clothing. Wash skin with plenty of soap and water. Consult a physician. Chemically decontaminate clothing and then launder before reuse or incinerate.

For Inhalation: Remove victim promptly to clean air. If victim is not breathing, administer artificial respiration. If breathing is difficult give oxygen. Consult a physician.

For Ingestion: Remove residual drug. Consult a physician. Provide supportive treatment. No specific antidote exists.

SECTION VII. SPILL, LEAK AND DISPOSAL PROCEDURES

Spill/Leak Cleanup Procedures:

These should be conducted according to the "DTP (NCI) Generic Safe Handling Procedures for Potent Toxic Drugs" (10/13/92): Evacuate area. Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard after use. Avoid raising aerosols by promptly covering the spilled compound with damp paper towels. Pick up compound with additional towels, place in a bag, and hold for waste disposal. Sodium hypochlorite may degrade NSC 638850 to relatively nontoxic derivatives; use of this is advisable. Expose the contaminated area to the bleach solution for one hour. Afterwards, first wipe the area with paper towels soaked in bleach solution and then with paper towels wet with water. Ventilate area after compound pick-up and decontamination is complete. Dispose of contaminated clean-up materials properly.

Waste Management/Disposal: Incineration, at a temperature not less than 1000°C, is the recommended method of disposal. Observe all Federal, state, and local laws concerning the disposal of hazardous material or waste. Dissolve solids in a 10% solution of sodium hypochlorite. Add water miscible organic solvent to drug solutions and then treat with the bleach solution. Contaminated glassware, syringes, wipe-up materials, etc., should also be flushed with the bleach solution to reduce residues of toxic materials.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Personal Protective Equipment:

- Goggles: Wear chemical safety goggles when handling NSC 638850.  
Gloves: Wear rubber or latex gloves, not polyvinylchloride, when handling NSC 638850.  
Respirator: Wear NIOSH-MSHA approved respirator.  
Other: Wear protective laboratory coat.

Workplace Considerations:

Ventilation: Laboratory operations should be conducted in a chemical fume hood, glove box, or ventilated cabinet equipped with filtered mechanical exhaust to the outside.

Safety Stations: Safety shower and eye bath should be accessible.

The personal protective equipment listed above should be worn at all times when handling NSC 638850. Avoid contact and inhalation. Avoid prolonged or repeated exposure. Wash thoroughly after handling.

SECTION IX. SPECIAL PRECAUTIONS

Storage Segregation: Store in a tightly-closed container, protected from light, at -20°C. Use of a secondary container is recommended.

Other Precautions: The user should be made aware that NSC 638850 is an investigational substance. It is a highly potent cytotoxic agent. Handling as a solid or a solution should be carried out with extreme care to avoid personal exposure. Hazards associated with exposure to NSC 638850 may as yet be unknown. This material should be handled only by those trained in the handling of potentially hazardous material.

For Non-Emergency Information:

Decontamination Procedures 301-496-8780	Chief, Pharmaceutical Resources Branch
Material Safety Data Sheets 301-496-8795	Project Officer, Drug Synthesis And Chemistry Branch
Toxicity Data 301-496-8777	Chief, Toxicology Branch

The information in this document was compiled primarily from secondary sources. The information is believed to be correct and accurate, but no warranty is expressed or implied.