

Chemical Research and Development

STARKS ASSOCIATES, INC.

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original: January 19, 2000
revised: February 7, 2013

MATERIAL SAFETY DATA SHEET

[CAUTION: The identity of this substance is proprietary to Starks Associates, Inc. and to National Institute of Allergy and Infectious Diseases]

-----IDENTIFICATION-----

Chemical Name: 6H-Dipyrido[3,2-b:2',3'-e][1,4]diazepin-6-one,
11-cyclopropyl-5,11-dihydro-4-methyl-

Other Name: Nevirapine

Starks Reference No: NG39-93-3

Chemical Formula: C₁₅H₁₄N₄O

-----CAS REGISTRY NUMBER(S)-----

CAS#: 129618-40-2

-----HEALTH HAZARD DATA-----

RTECS#: JM5562500 (see attached RTECS file)

Class Identifier: Drug

-----PRIMARY ROUTE(S) OF ENTRY (Accidental Exposure)-----

No applicable information was found; prevent all accidental exposure to skin, eyes, or lungs.

-----PHYSICAL AND CHEMICAL CHARACTERISTICS-----

White solid; melting point 247-249°C; soluble in chloroform or methylene chloride.

-----PHYSICAL HAZARDS-----

No applicable information was found; as with most organic powders, dust explosion may be possible when powder is suspended in air.

-----EXPOSURE LIMIT-----

No specifically applicable information was found; advisable to avoid exposure to skin, eyes or lungs.

-----NTP, IARC, OSHA-----

No entries were found. To the best of our knowledge, the potential carcinogenic properties of this material are not known.

-----PRECAUTIONS FOR SAFE HANDLING-----

This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of many compounds are not yet well defined.

Appropriate Hygiene Practices

Avoid personal contact through ingestion, inhalation, contact with eyes or skin.

Protective Measures During Repair or Maintenance of Contaminated Equipment

No applicable information was found.

Steps to be taken if material is released or spilled

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.

Sweep up, place in a bag and hold for waste disposal.

Avoid raising dust.
Ventilate area and wash spill site after material pickup is complete.

Waste disposal method

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state & local laws.

-----CONTROL MEASURES-----

Engineering Controls

Mechanical exhaust required.

Personal Protective Equipment

Safety glasses or chemical safety goggles.
Impermeable gloves and lab coat. NIOSH/MSHA
approved respirator may be advisable.

-----EMERGENCY AND FIRST AID PROCEDURS-----

In case of contact, immediately flush eyes with copious
amounts of water for at least 15 minutes.

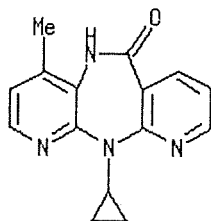
In case of contact, immediately wash skin with soap and
copious amount of water.

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give
oxygen.

Call a physician.

Wash contaminated clothing before reuse or discard.

Information contained herein is based upon observations made
in the course of resynthesizing this substance and other
information available to us. We have undertaken no tests to
confirm the accuracy or completeness of this information and
assume no responsibility in this regard.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3589 REFERENCES IN FILE CA (1907 TO DATE)
 43 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 3654 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file rtecs

COST IN U.S. DOLLARS

SINCE FILE ENTRY	TOTAL SESSION
10.95	11.19

FULL ESTIMATED COST

FILE 'RTECS' ENTERED AT 09:41:07 ON 06 FEB 2013

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Registry of Toxic Effects of Chemical Substances (RTECS). This National Institute of Occupational Safety and Health (NIOSH) file is a compendium of toxicity data extracted from the scientific literature. File Last Reloaded: JANUARY 2013

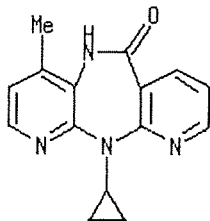
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 11

L2 1 L1

=> d 12 all

L2 ANSWER 1 of 1 RTECS COPYRIGHT 2013 U.S. GOVERNMENT on STN
 CAS Registry Number (RN): 129618-40-2 RTECS
 RTECS Number (RTN): JM5562500
 Molecular Formula (MF): C15 H14 N4 O
 Formula Weight (FW): 266.33
 Chemical Name (CN): 5H-Dipyrido(3,2-b:2',3'-e)(1,4)diazepin-6-one, 5,11-dihydro-11-cyclopropyl-4-methyl-; BI-RG 587; 11-Cyclopropyl-5,11-dihydro-4-methyl-6H-dipyrido(3,2-b:2',3'-e)(1,4)diazepin-6-one; Nevarapine; Viramune
 Class Identifier (CI): Drug; Human Data
 Entry/Update Date (DATE): Jul 2010
 Character Count: 4876



REPRODUCTIVE EFFECTS DATA (REP):

Effect	Route	Organism	Dose	Duration	Source
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EFF	RTE	ORGN	DOSE	DUR	SO
T87	oral	Mouse	TDLo 2464 mg/kg	multigeneratio n	TOXID9 78,97,2004

REPRODUCTIVE EFFECTS REFERENCES:

TOXID9 Toxicologist (Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311) V.1- 1981-

TOXICITY DATA (TOX):

Effect EFF	Route RTE	Organism ORGN	Dose DOSE	Source SO
	oral	rat	LDLo 400 mg/kg	YAKUD5 41,2209,19 99
	oral	dog	LD >3200 mg/kg	YAKUD5 41,2209,19 99
Y53	intraperitoneal	rat	TDLo 150 mg/kg	TOXID9 -,360,2009

TOXICITY DATA REFERENCES:

YAKUD5 Gekkan Yakuji Pharmaceuticals Monthly. (Yakugyo Jihosha, Inaoka Bldg., 2-36 Jinbo-cho, Kanda, Chiyoda-ku, Tokyo 101, Japan) V.1- 1959-
TOXID9 Toxicologist (Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311) V.1- 1981-

OTHER MULTIPLE DOSE DATA (OMUL):

Effect EFF	Route RTE	Organism ORGN	Dose DOSE	Duration DUR	Source SO
P16;P28;U25	oral	woman	TDLo 1.6800E+04 mg/kg	6W-I	OBNAS 101,1094,2 003
P27;S01;S04	oral	Mouse	TDLo 2464 mg/kg	28D-I	TOXID9 78,97,2004
R03	oral	rat	TDLo 2800 mg/kg	4W-I	TOXID9 66,152,200 2
L70;N18;R03	oral	rat	TDLo 4200 mg/kg	4W-I	CRTOEC 16,1078,20 03
L70;R03;R21	oral	rat	TDLo 5600 mg/kg	8W-I	CRTOEC 16,1078,20 03
N18;R03;N73	oral	rat	TDLo 2100 mg/kg	2W-I	CRTOEC 16,1078,20 03
L14;R03	oral	woman	TDLo 28 mg/kg	7D-I	AJOGAH 194,199,20 06
P72;R01	oral	rat	TDLo 1050 mg/kg	7D-I	CRTOEC 19,1205,20 06
S01	oral	rat	TDLo 3150 mg/kg	21D-C	TOXID9 -,360,2009

P28;R03	oral	rat	TDLo 3000 mg/kg	20D-I	CRTOEC 21,1862,20 08
P28;R03	subcutaneous	rat	TDLo 1500 mg/kg	20D-I	CRTOEC 21,1862,20 08

OTHER MULTIPLE DOSE REFERENCES:

OBNAS Obstetrics and Gynecology (Elsevier Science Pub. Co., Inc., 52 Vanderbilt Ave., New York, NY 10017) V.1- 1953-
 TOXID9 Toxicologist (Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311) V.1- 1981-
 CRTOEC Chemical Research in Toxicology (American Chemical Soc., Distribution Office Dept. 223, POB 57/36, West End Station, Washington, DC 20037) V.1- 1988-
 AJOGAH American Journal of Obstetrics and Gynecology (C.V. Mosby Co., 11830 Westline Industrial Dr., St. Louis, MO 63146) V.1- 1920-

TOXICOLOGY REVIEW (TREV):

TOXICOLOGY REVIEW MUREAV 488,151,2001
 TOXICOLOGY REVIEW TPHSDY 23,381,2002
 TOXICOLOGY REVIEW PNPPD7 26,747,2002
 TOXICOLOGY REVIEW JAADDB 56,181,2007
 TOXICOLOGY REVIEW ADDER* 21,279,2005
 TOXICOLOGY REVIEW CLLID* 11,615,2007
 TOXICOLOGY REVIEW CLLID* 13,277,2009
 TOXICOLOGY REVIEW DERCL* 25,233,2007

TOXICOLOGY REVIEW REFERENCES:

MUREAV Mutation Research (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964-
 TPHSDY Trends in Pharmacological Sciences (Elsevier Science Pub. Co., Inc., 52 Vanderbilt Ave., New York, NY 10017) V.1- 1979-
 PNPPD7 Progress in Neuro-Psychopharmacology and Biological Psychiatry (Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523) V.6- 1982-
 JAADDB Journal of the American Academy of Dermatology (C.V. Mosby Co., 11830 Westline Industrial Dr., St. Louis, MO 63141) 1979-
 ADDER* Advances in Dermatology (Chicago Il Year Book Medical Publishers) V - 1986-
 CLLID* Clinics in liver disease (Philadelphia : Saunders) V 1- 1997-
 DERCL* Dermatologic clinics (Philadelphia : Saunders) V 1- 1983-

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

5.62

16.81

STN INTERNATIONAL LOGOFF AT 09:41:41 ON 06 FEB 2013