

## Dronabinol

### SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

<b>PRODUCT NAME</b>	Dronabinol	<b>TELEPHONE</b>	626-334-2908
<b>MANUFACTURER</b>	Norac, Inc.	<b>CHEMTREC (24hr) (USA)</b>	800-424-9300
<b>ADDRESS</b>	405 S. Motor Ave., Azusa, CA 91702	<b>(Maritime/International)</b>	703-527-3887
<b>CHEMICAL NAME</b>	3-Pentyl-6,6,9-Trimethyl-6a,7,8,10a-Tetrahydro-6H-Dibenzo (b,d) Pyran-1-ol	<b>CAS NO.</b>	See Section 2
<b>CHEMICAL FAMILY</b>	Cannabinoids	<b>FORMULA</b>	See Section 2
<b>SYNONYMS</b>	Cannabinol, 1-trans-delta(sup 9)-tetrahydro-; Delta-9 Tetrahydrocannabinol; Dronabinol; Marinol; THC		

### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	%	Formula	Hazard Data
Delta-9 Tetrahydrocannabinol	1972-08-3	> 95	C <sub>21</sub> H <sub>30</sub> O <sub>2</sub>	Oral--Rat LD <sub>50</sub> : 666 mg/kg
Delta-8 Tetrahydrocannabinol	5957-75-5	< 2	C <sub>21</sub> H <sub>30</sub> O <sub>2</sub>	Oral--Rat LD <sub>50</sub> : 860 mg/kg
Cannabinol	521-35-7	< 5	C <sub>21</sub> H <sub>26</sub> O <sub>2</sub>	Intravenous--Rabbit LD <sub>Lo</sub> : 126 mg/kg
Exo Tetrahydrocannabinol		< 5	C <sub>21</sub> H <sub>30</sub> O <sub>2</sub>	

### SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

Harmful by inhalation, in contact with skin and if swallowed.  
Potentially irritating to eyes, respiratory system and skin.  
Possible risk of irreversible effects

**Exposure can cause:** Nausea, dizziness and headache. Other effects include slowed speech, ataxia, somnolence, mild euphoria, heightened sensory awareness, a generally relaxed feeling of well being and some alteration of time perception, decrease in motor coordination, muscle strength and hand steadiness and an increase in reaction time. Short-term memory function is impaired, as is the ability to accomplish tasks requiring multiple mental steps. There is an enhancement of appetite, lapses of attention, a decrease in social inhibition, and an alteration of mood, which can induce giddiness manifested by laughing episodes.

<b>THRESHOLD LIMIT VALUE</b>	Unknown
<b>ROUTES OF EXPOSURE</b>	
<b>Skin Absorption</b>	Though unlikely, may be harmful by skin contact and potentially irritating to skin.
<b>Eye Contact</b>	Eye contact causes irritation.
<b>Ingestion</b>	Harmful if swallowed
<b>Inhalation</b>	Harmful by inhalation, irritation to respiratory system.
<b>EFFECTS OF OVER-EXPOSURE</b>	Possible risk of irreversible effects, possible teratogen, possible mutagen
<b>Target Organs</b>	Nerves, liver

### SECTION 4 - FIRST-AID MEASURES

<b>Skin</b>	Remove contaminated clothes scrape off spilt material, remove any remaining residue with alcohol and wash area thoroughly with water. Seek medical attention if necessary.
<b>Eyes</b>	Seek medical attention.
<b>Ingestion</b>	Wash mouth with water if person is conscious. Immediately call a physician. For aid to physician, suggest Poison Control Center.
<b>Inhalation</b>	Remove to fresh air. Seek medical attention if necessary.

### SECTION 5 - FIRE-FIGHTING MEASURES

<b>EXTINGUISHING MEDIA</b>	Carbon dioxide, dry chemical or appropriate foam
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	Fireman should be equipped with protective clothing and SCBA's. In case of fire near storage area, cool the containers with water spray.
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS</b>	None known

# Dronabinol

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE** Refer to protective measures listed in sections 7 and 8. Spilled material should be scraped up and remaining residue should be dissolved with alcohol. Place in a clean, sealed container, for proper disposal.

## SECTION 7 - HANDLING AND STORAGE

**HANDLING** Keep containers closed and under vacuum to prevent contamination and air contact. Rotate stock using the oldest material first. DO NOT USE NEAR FOOD OR DRINK. Refer to section 8 for additional information.

**STORAGE** Preserve in tight container in inert atmosphere preferably under vacuum or nitrogen blanket, store in the dark or a light resistant container in a cool place; 8 to 15°C (46-59°F). Prolonged contact with air and heat will adversely affect quality. DO NOT STORE WITH FOOD OR DRINK.

**OTHER PRECAUTIONS** None

## SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

**RESPIRATORY PROTECTION** If necessary wear appropriate NIOSH/MSHA approved respirator.

**VENTILATION** None

**EYE PROTECTION** Safety goggles recommended.

**HAND PROTECTION** Protective gloves recommended.

**OTHER** Other protective clothing as necessary.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE AND ODOR:** Sticky amber resin, glassy when cold, no odor.

**BOILING POINT:** 390°F at .02 mmHg

**VAPOR PRESSURE:** Negligible at 20°C

**VAPOR DENSITY:** No data available

**EVAPORATION RATE:** Negligible

**% VOLATILE BY VOLUME:** Negligible

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY:** ~ 1.05

**FLASH POINT:** No data available

**FLAMMABLE LIMITS:** No data available

**pH:** Not applicable

## SECTION 10 - STABILITY AND REACTIVITY

**STABILITY** Stable under vacuum

**CONDITIONS TO AVOID** Exposure to air, exposure to ultraviolet light and heat.

**MATERIALS TO AVOID** Strong oxidizing agents, strong acids, metallic salts

**HAZARDOUS DECOMPOSITION PRODUCTS** Unknown

**HAZARDOUS POLYMERIZATION** Will not occur.

## SECTION 11 - TOXICOLOGICAL INFORMATION

6H-DIBENZO(b,d)PYRAN-1-OL, 6a,7,8,10a-TETRAHYDRO-6,6,9-TRIMETHYL-3-PENTYL-

RTECS: HP8225000

### Mutation Data

Cytogenic analysis;  
Human:lymphocyte; 2500 umol/L/24H  
Mouse-intraperitoneal; 50 mg/kg/5D-I  
DNA inhibition  
Human:fibroblast; 10 umol/L  
Human:cell types; 10 umol/L  
Human:HeLa cell; 10 umol/L

### Reproductive Effects

Oral--Monkey; TDLo: 396 mg/kg (1-23W preg); Effects on embryo or fetus(Fetal death); Effects on newborn(weaning or lactation index; Growth statistic)

# Dronabinol

## Tumorigenic Data

Subcutaneous--Mouse TD<sub>L0</sub>: 800 ug/kg/W-I; Tumorigenic(Equivocal tumorigenic agent by RTECS criteria); Skin and appendages (Tumors); Tumorigenic (Tumors at site of application)

## Toxicity Data

### Intraperitoneal

Mouse LD<sub>50</sub>: 168 mg/kg

Rat LD<sub>50</sub>: 373 mg/kg

### Intravenous

Monkey LD<sub>50</sub>: 128 mg/kg; Behavioral(Muscle contraction or spasticity); Cardiac(Arrythmias); Lungs, Thorax, or Respiration(Dyspnea)

Mouse LD<sub>50</sub>: 42 mg/kg; Behavioral(Ataxia); Lungs, Thorax, or Respiration(Respiratory depression); Behavior(Excitement)

Rat LD<sub>50</sub>: 29 mg/kg; Behavioral(Ataxia); Lungs, Thorax, or Respiration(Respiratory depression); Behavior(Excitement)

### Oral

Dog LD<sub>50</sub>: 525 mg/kg

Mouse LD<sub>50</sub>: 482 mg/kg

Rat LD<sub>50</sub>: 666 mg/kg

Only selected information from the RTECS is listed here. For complete information see actual RTECS entry.

## SECTION 12 - ECOLOGICAL INFORMATION

The product should be prevented from entering drains, sewers, streams, etc.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Prevent material from entering drains, sewers, streams, etc. Contact the Drug Enforcement Agency (DEA) concerning the disposal of this controlled substance. Observe all federal, state and local environmental regulations.

## SECTION 14 - TRANSPORT INFORMATION

Not regulated by the DOT.

## SECTION 15 - REGULATORY INFORMATION

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### Chemical Name

None

### CAS Number

### Percent

### TSCA Status

The ingredients in this product are listed in the US Toxic Substances Control Act (TSCA) Inventory.

### Status of Carcinogenicity

Not recognized as a carcinogen by the IARC, NTP or OSHA.

## SECTION 16 - OTHER INFORMATION

### DISCLAIMER OF LIABILITY

The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.