



## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Chemical Name** Hydrocodone-d6 (1.0 mg/mL in Methanol)

**Catalogue #** KIT0502

### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

**Product Uses** To be used only for scientific research and development. Not for use in humans or animals.

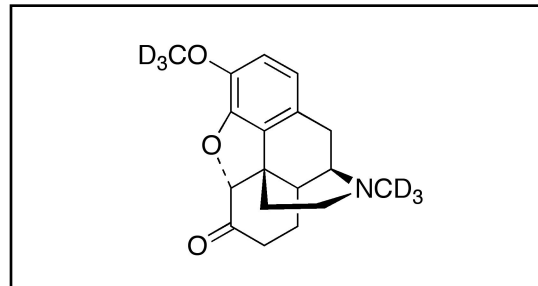
### 1.3 Details of the Supplier of the Safety Data Sheet

**Company** Toronto Research Chemicals  
2 Brisbane Road  
Toronto, ON M3J 2J8  
CANADA

**Telephone** +14166659696

**FAX** +14166654439

**Email** orders@trc-canada.com



### 1.4 Emergency Telephone Number

**Emergency#** +1(416) 665-9696 between 0800-1700 (GMT-5)

## 2. HAZARDS IDENTIFICATION

### WHMIS Classification (Canada)

B2 Flammable Liquid

D1B Toxic Material Causing Immediate and Serious Toxic Effects  
Toxic by Ingestion/Skin Absorption

D2A Very Toxic Material Causing Other Toxic Effects  
Respiratory Tract Sensitizer

### WHMIS Symbols (Canada)



### 2.1/2.2 Classification of the Substance or Mixture and Label Elements

#### GHS Hazards Classification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

Flammable Liquids (Category 2)

Acute Toxicity, Oral (Category 3)

Acute Toxicity, Inhalation (Category 3)

Acute Toxicity, Dermal (Category 3)

Sensitisation, Respiratory (Category 1)

Sensitisation, Skin (Category 1)

Specific Target Organ Toxicity, Single Exposure (Category 1)

Hazardous to the Aquatic Environment, Acute Hazard (Category 3)

#### GHS Hazards Identification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

**Signal Word** Danger

**GHS Hazard Statements**



H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H331	Toxic if inhaled.
H311	Toxic in contact with skin.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H370	Causes damage to organs.
H402	Harmful to aquatic life.

### GHS Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	
P280	Do not breathe dust/fume/gas/mist/vapours/spray
P301/P310	Wear protective gloves/protective clothing/eye protection/face protection.
P307/P311	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF exposed: Call a POISON CENTER or doctor/physician.

## 2.3 Unclassified Hazards/Hazards Not Otherwise Classified

No data available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

**Molecular Formula:** C<sub>18</sub>H<sub>15</sub>D<sub>6</sub>NO<sub>3</sub>

**Molecular Weight:** 305.40

**CAS Registry #:** 1007844-38-3

**EC#:**

#### Synonyms

(5 $\alpha$ )-4,5-Epoxy-3-(methoxy-d3)-17-(methyl-d3)morphinan-6-one; (-)-Dihydrocodeinone-d6; 6-Oxo-7,8-dihydrocodeine-d6; Bekadid-d6; Dihydrocodeinone-d6; Hydrocodon-d6; Multacodin-d6; NSC 19044-d6;

### 3.2 Mixtures

Ingredient	CAS#	EC#	Index-No.	%Composition
Hydrocodone-d6	N/A	N/A	N/A	0.13%
Methanol	67-56-1	200-659-6	603-001-00-X	>99%

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### General Advice

If medical attention is required, show this safety data sheet to the doctor.

#### If Inhaled

If inhaled, move casualty to fresh air. If not breathing, give artificial respiration and consult a physician.

#### In Case of Skin Contact

Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In Case of Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If Swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

### 4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

No data available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special Hazards Arising from the Substance or Mixture

Carbon oxides, Nitrogen oxides

### 5.3 Advice for Firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further Information

No data available.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use recommended personal protective equipment (see Section 8). Adequate ventilation must be provided to ensure vapours or mists are not inhaled. Vapours are heavier than air and may accumulate in low areas. All sources of ignition, including sources of static discharge, must be removed from area.

### 6.2 Environmental Precautions

Material should not be allowed to enter the environment. Prevent further spillage or discharge into drains, if safe to do so.

### 6.3 Methods and Materials for Containment and Cleaning Up

Contain the spill and then collect using non-combustible absorbent material (such as clay, diatomaceous earth, vermiculite or other appropriate material). Place material in a suitable, sealable container and then dispose according to local/national regulations and guidance (see Section 13).

### 6.4 Reference to Other Sections

For protective equipment, refer to Section 8. For disposal, see Section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Ventilation and proper handling are to be used to prevent the formation of vapours and mists. Remove all sources of ignition and take precautionary measures to prevent the buildup of electrostatic discharge (ground and bond containers as appropriate). No smoking, eating or drinking around this material. Wash hands after use.

### 7.2 Conditions for Safe Storage, Including any Incompatibilities

Ensure container is kept securely closed before and after use. Keep in a well ventilated area and do not store with strong oxidizers or other incompatible materials (see Section 10).

Storage conditions: -20°C Freezer

### 7.3 Specific End Uses

For scientific research and development only. Not for use in humans or animals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters

#### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200.000000 ppm 262.000000 mg/m3	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)

#### Remarks

Substance may be readily absorbed through intact skin

STEL	250.000000 ppm 328.000000 mg/m3	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)
------	------------------------------------	---

Substance may be readily absorbed through intact skin

TWA	200.000000 ppm	Canada, British Columbia OEL
-----	----------------	------------------------------

Contributes significantly to the overall exposure by the skin route.

STEL 250.000000 ppm Canada. British Columbia OEL

Contributes significantly to the overall exposure by the skin route.

TWAEV 200.000000 ppm  
262.000000 mg/m3 Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Skin (percutaneous)

STEV 250.000000 ppm  
328.000000 mg/m3 Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Skin (percutaneous) 200.000000 ppm USA. ACGIH Threshold Limit Values (TLV)

STEL 250.000000 ppm USA. ACGIH Threshold Limit Values (TLV)

## 8.2 Exposure Controls

### Appropriate Engineering Controls

A laboratory fumehood or other appropriate form of local exhaust ventilation should be used to avoid exposure.

### Personal Protective Equipment

All recommendations below are advisory in nature and a risk assessment should be performed by the employer/end user prior to use of this product. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

### Eye/Face Protection

Safety goggles or face shield. All equipment should have been tested and approved under appropriate standards, such as NIOSH (US), CSA (Canada), or EN 166 (EU).

### Skin Protection

Gloves should be used when handling this material. Gloves are to be inspected prior to use. Contaminated gloves are to be removed using proper glove removal technique so that the outer surface of the glove does not contact bare skin. Dispose of contaminated gloves after use in compliance with good laboratory practices and local requirements.

Gloves used for incidental exposures (splash protection) should be designated as "chemical resistant" by EU standard EN 374 with the resistance codes corresponding to the anticipated use of the material. Unrated gloves are not recommended.

Suggested gloves: AnsellPro Sol-Vex nitrile gloves style 37-175, 15 mil thickness.  
Penetration time has not been determined.

Gloves used for prolonged direct exposure (immersion) should be designated "chemical resistant" as per EN 734 with the resistance codes corresponding to the anticipated use of the material.

Suggested gloves: AnsellPro Viton/Butyl gloves style 38-612, 4/8 mil thickness.  
Penetration time has not been determined.

These recommendations may not apply if the material is mixed with any other chemical, or dissolved into a solution. A risk assessment must be performed to ensure the gloves will still offer acceptable protection.

### Body Protection

Chemical-resistant bodysuit (laminated Tychem SL or equivalent).

### Respiratory Protection

Recommended respirators are NIOSH-approved OV/Multi-gas/P100 or CEN-approved ABEK-FFP3 respirators. These are to be only used as a backup to local exhaust ventilation or other engineering controls. If the respirator is the only means of protection, a full-face supplied air respirator must be used.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical and Chemical Properties

#### A) Appearance

Clear Colourless Solution

#### B) Odour

No data available

**C) Odour Threshold**

No data available

**E) Melting Point/Freezing Point**

N/A

**G) Flash point**

No data available

**I) Flammability (Solid/Gas)**

No data available

**K) Vapour Pressure**

No data available

**M) Relative Density**

No data available

**O) Partition Coefficient: n-octanol/water**

No data available

**Q) Decomposition Temperature**

No data available

**S) Explosive Properties**

No data available

**D) pH**

No data available

**F) Initial Boiling Point/Boiling Range**

No data available

**H) Evaporation Rate**

No data available

**J) Upper/Lower Flammability/Explosive Limits**

No data available

**L) Vapour Density**

No data available

**N) Solubility**

Methanol

**P) Auto-Ignition Temperature**

No data available

**R) Viscosity**

No data available

**T) Oxidizing Properties**

No data available

**9.2 Other Information**

no data available

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

No data available.

**10.2 Chemical Stability**

Stable under recommended storage conditions.

**10.3 Possibility of Hazardous Reactions**

Vapours may form explosive mixture with air.

**10.4 Conditions to Avoid**

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**10.5 Incompatible Materials**

Acids, Oxidizing agents, Alkali metals, Acid chlorides, Acid anhydrides, Reducing agents, Phosphorus halides.

**10.6 Hazardous Decomposition Products**

In the event of fire: See section 5. Other decomposition products: No data available.

**11. TOXICOLOGICAL INFORMATION****11.1 Information on Toxicological Effects****A) Acute Toxicity****Oral LD50:** No data available.**Inhalation LC50:** No data available.**Dermal LD50:** No data available.**B) Skin Corrosion/Irritation**

No data available

**C) Serious Eye Damage/Irritation**

No data available

**D) Respiratory or Skin Sensitization**

No data available

**E) Germ Cell Mutagenicity**

No data available

**F) Carcinogenicity**

No data available

**G) Reproductive Toxicity/Teratogenicity**

No data available

**H) Single Target Organ Toxicity - Single Exposure**

No data available

### **I) Single Target Organ Toxicity - Repeated Exposure**

No data available

### **J) Aspiration Hazard**

No data available

### **K) Potential Health Effects and Routes of Exposure**

#### **Inhalation**

Toxic if inhaled. May cause respiratory tract irritation.

#### **Ingestion**

Toxic if swallowed.

#### **Skin**

Toxic if absorbed through skin. May cause skin irritation.

#### **Eyes**

May cause eye irritation.

### **L) Signs and Symptoms of Exposure**

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated.

### **M) Additional Information**

RTECS: Not available.

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

No data available.

### **12.2 Persistence and Degradability**

No data available.

### **12.3 Bioaccumulative Potential**

No data available.

### **12.4 Mobility in Soil**

No data available.

### **12.5 Results of PBT and vPvB Assessment**

No data available.

### **12.6 Other Adverse Effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life.

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Waste Treatment Methods**

#### **A) Product**

Product may be burned in an incinerator equipped with afterburner and scrubber. Excess and expired materials are to be offered to a licensed hazardous material disposal company. Ensure that all Federal and Local regulations regarding the disposal and destruction of this material are followed.

#### **B) Contaminated Packaging**

Dispose of as above.

#### **C) Other Considerations**

Product is not to be disposed of in sanitary sewers, storm sewers, or landfills.

## **14. TRANSPORT INFORMATION**

### **14.1 UN Number**

DOT (US): UN1230

IATA: UN1230

IMDG: UN1230

ADR/RID: UN1230

### **14.2 UN Proper Shipping Name**

DOT (US)/IATA:

Methanol, solution

IMDG/ARD/RID:

METHANOL, SOLUTION

### **14.3 Transport Hazard Class(es)**

DOT (US): 3 (6.1)

IATA: 3 (6.1)

IMDG: 3 (6.1)

ADR/RID: 3 (6.1)

### **14.4 Packing Group**

DOT (US): II

IATA: II

IMDG: II

ADR/RID: II

**14.5 Environmental Hazards**

DOT (US): None

IATA: None

IMDG: None

ADR/RID: None

**14.6 Special Precautions for User**

None

**15. REGULATORY INFORMATION**

This safety data sheet complies with the requirements of WHMIS (Canada), OSHA 1910.1200 (US), and EU Regulation EC No. 1907/2006 (European Union).

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture****A) Canada**

**DSL/NDSL Status:** This product or a component of this product is registered on the Canadian DSL/NDSL.

**B) United States**

**TSCA Status:** This product or a component is listed on the US EPA TSCA.

**C) European Union**

**ECHA Status:** This product or a component is registered with the EU ECHA.

**15.2 Chemical Safety Assessment**

No data available

**16. OTHER INFORMATION****16.1 Revision History**

Original Publication Date: 9/11/2015

**16.2 List of Abbreviations**

LD50	Median lethal dose of a substance required to kill 50% of a test population.
LC50	Medial lethal concentration of a substance required to kill 50% of a test population.
LDLo	Lowest known lethal dose
TDLo	Lowest known toxic dose
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances

**16.3 Further Information**

Copyright 2015. Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.