1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name  Desomorphine

Catalogue #  D296900
Company  Toronto Research Chemicals
          2 Brisbane Road
          Toronto, ON  M3J 2J8
          CANADA
Telephone  +14166659696
FAX  +14166654439
Emergency#  +14166659696
Email  orders@trc-canada.com

2. HAZARDS IDENTIFICATION

WHMIS Classification
D1B  Toxic Material Causing Immediate and Serious Toxic Effects
    Toxic by ingestion
    Toxic by inhalation
    Toxic by skin absorption

HMIS Classification
Health hazard:  2
Flammability:  0
Physical hazards:  0

Potential Health Effects
Inhalation  Harmful if inhaled. May cause respiratory tract irritation.
Skin  Harmful if absorbed through skin. May cause skin irritation.
Eyes  May cause eye irritation.
Ingestion  Harmful if swallowed.

GHS Classification
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Acute toxicity, Oral (Category 4)

GHS Label elements, including precautionary statements
Signal word  Warning
Hazard statement(s)
H302/H312  Harmful if swallowed or in contact with skin.
H332  Harmful if inhaled.
Precautionary statements
P280  Wear protective gloves/ protective clothing.
P312  Call a POISON CENTER or doctor/physician if you feel unwell.

GHS Label Pictogram

Toronto Research Chemicals - D296900
3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: \( C_{17}H_{21}NO_2 \)
Molecular Weight: 271.35
CAS Registry #: 427-00-9
EC#: (5\(\alpha\))-4,5-Epoxy-17-methylmorphinan-3-ol; 6-Deoxy-7,8-dihydrormorphine; 4,5-Epoxy-3-hydroxy-N-methylmorphinan; Deoxydihydomorphine D; Desomorphine; Dihydrodeoxymorphine; Dihydrosopxymorphine; Deoxydihydomorphine D; Permonid;
Synonyms:

4. FIRST AID MEASURES

General Advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

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

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust or aerosol formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust or aerosols. Provide appropriate exhaust ventilation at places where dust/aerosol is formed. Normal measures for preventative fire protection.

Toronto Research Chemicals - D296900
Conditions for safe storage
Keep container tightly close in a dry and well-ventilated place. Store at -20°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Specific engineering controls
Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Off-white to light beige solid

Safety data
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Melting point</th>
<th>188-190°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
<td></td>
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<tr>
<td>Boiling point</td>
<td>N/A</td>
<td>Flash point</td>
<td>N/A</td>
</tr>
<tr>
<td>Ignition temp.</td>
<td>N/A</td>
<td>Lower explosion limit</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>N/A</td>
<td>Vapour pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Density</td>
<td>N/A</td>
<td>Water solubility</td>
<td>N/A</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LDLo (subcutaneous - mouse) 104 mg/kg
LD50 (intravenous - mouse) 27 mg/kg

Toronto Research Chemicals - D296900
Irritation and corrosion
no data available

Sensitization
no data available

Carcinogenicity
IARC: To the best of our knowledge, this compound has not been identified as a possible or potential human carcinogen by IARC.

Reproductive toxicity
no data available

Potential health effects

Inhalation Harmful if inhaled. May cause respiratory tract irritation.
Ingestion Harmful if swallowed.
Skin Harmful if absorbed through the skin. May cause skin irritation.
Eyes May cause eye irritation.

Signs and Symptoms of Exposure
Anesthetic effects, convulsions, drowsiness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: QD1730000

12. ECOLOGICAL INFORMATION

Toxicity Persistence and degradability Bioaccumulative potential
no data available no data available no data available

Mobility in soil PBT and vPvB assessment Other adverse effects
no data available no data available no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)/IMDG/IATA
Not dangerous goods

15. REGULATORY INFORMATION

DSL Status
Product is not on the Canadian DSL or NDSL list.

WHMIS Classification
D1B Toxic Material Causing Immediate and Serious Toxic Effects Toxic by ingestion Toxic by inhalation Toxic by skin absorption

16. OTHER INFORMATION

Further information
Toronto Research Chemicals - D296900
Copyright 2010 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 not to be deemed as all-inclusive and 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.