KETAMINE DATABASE

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Ketamine is a medication mainly used for starting and maintaining anesthesia. It induces a trance-like state while providing pain relief, sedation, and memory loss. Other uses include sedation in intensive care and treatment of pain and depression.

Some ketamine experiences involve a terrifying feeling of almost complete sensory detachment that is likened to a near-death experience. These experiences, similar to a “bad trip” on LSD, are called the “K-hole.” Low-dose intoxication from ketamine results in impaired attention, learning ability, and memory. In high doses, ketamine can cause delirium, amnesia, impaired motor function, high blood pressure, depression, and potentially fatal respiratory problems.
Ketamine \(\text{C}_13\text{H}_{16}\text{CINO}\)

**General Facts**

*Molecular formula*: \(\text{C}_13\text{H}_{16}\text{CINO}\)

*Systematic name*: 2-(2-chlorophenyl)-2-(methylamino)cyclohexan-1-one (IUPAC name)

*Alternate names:*

- In medical jargon: Ketaject, Ketanest, dl-Ketamine, Ketalar, CI 581 base, CLSTA 20, Ketolar
- In drug jargon: special K, green, jet, K, and super C

*Molar mass*: 237.092042 g/mol
Synthesis of Ketamine:

\[
\text{o-Chloro benzonitrile} + \text{Cyclopentyl} \quad \xrightarrow{\text{MgBr}} \quad \text{Nitrile} \quad \xrightarrow{\text{Stir 3 days}} \quad \text{Hydrocarbon solvent} \quad \xrightarrow{\text{o-Chlorophenyl cyclopentyl ketone}} \quad \text{Br}_2
\]

\[
\text{Ketamine} \quad \xrightarrow{\text{Heat}} \quad \text{1-hydroxycyclopentyl-(o-chlorophenyl)-ketone-N-methylamine} \quad \xrightarrow{\text{CH}_2\text{NH}_2} \quad \text{Bromo ketone}
\]
**Ketamine synthesis**

Ketamine, although similar in structure to PCP, is synthesized via a completely different and more complex route (Lednicer and Mitscher, 1977). The reaction proceeds through a bromo-ketone intermediate formed through the reaction of cyclopentylmagnesium bromide with o-chlorobenzonitrile followed by a bromination step (Figure 4.49).

**Figure 4.49**

Synthesis of ketamine by Lednicer and Mitscher (1977)
United States Patent
Flores et al.

Patent Number: 5,817,699
Date of Patent: Oct. 6, 1998

PROCESS FOR THE PREPARATION OF KETAMINE OINTMENT

Inventors: John A. Flores, POB 12182, San Bernardino, Calif. 92423; Kenton L. Crowley, 40970 Alton Ct., Temecula, Calif. 92591

Appl. No.: 866,770
Filed: May 30, 1997

Int. Cl.   A61K 31/135
U.S. Cl.   514/647
Field of Search   514/647

OTHER PUBLICATIONS

Primary Examiner—William R.A. Jarvis
Attorney, Agent, or Firm—Rob L. Phillips

ABSTRACT
The present invention relates to a process for producing a ketamine ointment that is self-administered topically by a subject to alleviate neuropathic, sympathetic medicated pain and myofacial pain said subject is experiencing. The present invention is also utilized to improve the motor skills, and can also be used for a wide variety of other situations.
Flow Chart:

Process Flow for KETAMINE

Stage I
1. Charge THF and 2-Chlorobenzonitrile at RT
2. Cool the RM to 10°C
3. Add Cyclopentyl magnesium bromide at below 10°C
4. Maintain the RM at below 10°C till the reaction complies
5. Slowly add Ammonium chloride solution at below 10°C
6. Separate the Aqueous layer and organic layer
7. Distill off the organic layer under vacuum to get Stage-I Material

Stage II
1. Charge Carbon tetrachloride and Stage-I at RT
2. Cool the RM 0 to 5°C
3. Add Bromine at below 5°C
4. Maintain the RM at below 5°C till the reaction complies
5. Once reaction complies add Sodium Bisulfate and water soln into the RM at Below 5°C
6. Separate the Organic layer
7. Distill off solvent completely to get Stage-II Material
<table>
<thead>
<tr>
<th>Sr No</th>
<th>Machinery</th>
<th>Nos</th>
<th>Capacity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SS 316 Reactor with Stirrer, Jacket, SS 316 Condensers, SS 316 Receivers with Motors, Gear Box</td>
<td>1</td>
<td>305</td>
<td>Liter</td>
</tr>
<tr>
<td>2</td>
<td>SS 316 Reactor with Stirrer, Jacket, SS 316 Condensers, SS 316 Receivers with Motors, Gear Box</td>
<td>1</td>
<td>675</td>
<td>Liter</td>
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<tr>
<td>3</td>
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<td>800</td>
<td>Liter</td>
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<td>SS 316 Reactor with Stirrer, Jacket, SS 316 Condensers, SS 316 Receivers with Motors, Gear Box</td>
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<td>1500</td>
<td>Liter</td>
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<td>5</td>
<td>SS 316 Reactor with Stirrer, Jacket, SS 316 Condensers, SS 316 Receivers with Motors, Gear Box</td>
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<td>Liter</td>
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<td>6</td>
<td>SS 316 Reactor with SS 316 Condensor, SS 316- 200 Ltr. Receiver complete suitable for high vacuum distillation</td>
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<td>Liter</td>
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<td>7</td>
<td>Glass Lined Reactor with stirrer, Jacket, Motor, Gear Box complete with glass columns distillation assembly</td>
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<td>2500</td>
<td>Liter</td>
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<td>8</td>
<td>PPFRP Reactor with PPFRP stirring assembly</td>
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<td>5000</td>
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### Table 3: Required Raw Materials for Production of API’s and Fine Chemicals

For Production of 12000 Kg of Ketamine Hydrochloride per Annum

<table>
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<tr>
<th>Raw Material Required</th>
<th>Daily Consumption</th>
<th>Yearly Consumption</th>
<th>Unit</th>
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<tr>
<td>2 chloro benzoyl 2 – methylamino cyclopentanol HCL</td>
<td>58.95</td>
<td>17680</td>
<td>Kg</td>
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<tr>
<td>Decaline</td>
<td>10</td>
<td>3000</td>
<td>Kg</td>
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<tr>
<td>charcoal</td>
<td>0.33</td>
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<td>IPA HCL</td>
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<td>Kg</td>
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<tr>
<td>NaOH</td>
<td>5.78</td>
<td>1732</td>
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</tbody>
</table>

For Production of 1020 Kg of Carvedilol Phosphate from existing Carvedilol per Annum

<table>
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<tr>
<th>Raw Material Required</th>
<th>Daily Consumption</th>
<th>Yearly Consumption</th>
<th>Unit</th>
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<tr>
<td>Carvedilol</td>
<td>3.72</td>
<td>816</td>
<td>Kg</td>
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</table>
# Material Safety Data Sheet

**Fort Dodge**

Ketaset (Ketamine Hydrochloride) Veterinary Injection for Intramuscular Use

**WW MSDS No.** 30-4401

## Section 1. Product and Company Identification

| Manufactured/Supplied by | Fort Dodge Animal Health  
800 5th Street NW  
P.O. Box 518  
Fort Dodge, IA 50501  
Phone: 515-955-4600  
Fax: 515-955-9149 |
<table>
<thead>
<tr>
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<td>Date of Preparation</td>
<td>17 January 2002</td>
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<tr>
<td>Product No.</td>
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**Product Trade Name:** Ketaset (Ketamine Hydrochloride) Veterinary Injection for Intramuscular Use

**Common Name:** Not applicable.

**Synonyms:** Ketamine

**Chemical Formula:** Mixture.

**Chemical Family:** Not available.

**Formula No.:** Not available.

**CAS No.:** Mixture.

**U.N. No.:** Not applicable.

**EINECS No.:** Not applicable.

**In Case of:** SAM 355-2000
KETAMINE IN THE MARKET
Detailed Export Data of ketamine hydrochloride bp usp

81
Export Shipment Records found

Detailed Analysis & Trends of: Export of ketamine hydrochloride bp usp

Customs Import Duty of: ketamine hydrochloride bp usp

Trademarks on this page

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SPONSORED SEARCHES
import and export data
export naar india
import export details of india
hs code import data
usp standards
export by air freight

Establishing secure connection...
## Imports of ketamine hydrochloride bp usp in USA

## Manufacturers of ketamine hydrochloride bp usp

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<th>Date</th>
<th>HS Code</th>
<th>Description</th>
<th>Destination</th>
<th>Port of Loading</th>
<th>Unit</th>
<th>Quantity</th>
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<td>Bombay Air Cargo</td>
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<td>Bombay Air Cargo</td>
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MATERIAL SAFETY DATA SHEET

Product Name: Ketamine Hydrochloride Injection, USP

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Manufacturer Name 
Hospira, Inc.
275 North Field Drive
Lake Forest, Illinois 60045
USA

Note:
Hospira, formerly the Hospital Products Division of Abbott Laboratories, was
created as an independent company in May 2004.

Emergency Telephone
CHEMTREC: 800-424-9300
224 212-2055

Hospira, Inc.

Product Name
Ketamine Hydrochloride Injection, USP

Synonyms
None

The "Ketamine hydrochloride (CAS 1867-66-9) Market Research Report 2020" report has been added to

PRODUCTS

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<td>Ketamine Hydrochloride</td>
<td>BP / USP / EP / IP</td>
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<tr>
<td>Esketamine Hydrochloride / Quinpyramine Chloride</td>
<td>EP B / EP C</td>
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<td>Calcium Glycerophosphate</td>
<td>BP / BPC 63 / 50% W W solution</td>
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<td>Magnesium Glycerophosphate</td>
<td>BP / EP / BPC 63</td>
</tr>
<tr>
<td>Sodium Glycerophosphate</td>
<td>BP (Hydrated) / BPC 49 / 50% solution BPC 63</td>
</tr>
<tr>
<td>Sodium Alendronate</td>
<td>BP</td>
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Although clinicians are hopeful that Janssen Pharmaceutical's newly approved esketamine nasal spray, Spravato, will expand access to treatment, many also worry about the drug's potential for abuse.

CREDIT: JANSSEN PHARMACEUTICALS, INC.
<table>
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<th>Drug Name</th>
<th>Active Ingredients</th>
<th>Strength</th>
<th>Dosage Form/Route</th>
<th>Marketing Status</th>
<th>RLD</th>
<th>TE Code</th>
<th>Application No.</th>
<th>Company</th>
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<td>Prescription</td>
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<td>KETAMINE HYDROCHLORIDE</td>
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<td>AP</td>
<td>076902</td>
<td>MYLAN INSTITUTIONAL</td>
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Showing 1 to 2 of 2 entries

INJECTABLE;INJECTION; EQ 50MG BASE/ML

<table>
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<tr>
<th>Drug Name</th>
<th>Active Ingredients</th>
<th>Strength</th>
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<td>INJECTABLE;INJECTION</td>
<td>Prescription</td>
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Ketamine

General, Process, Patent, Company Profiles, Reports, Material Safety data Sheet, Suppliers

Primary Information Services. Terms of Our Services

Project @ a Glance

- Ketamine hydrochloride, or “Special K,” is a powerful hallucinogen widely used as an animal tranquilizer by veterinarians. Users sometimes call the high caused by Special K, “K hole,” and describe profound hallucinations that include visual distortions and a lost sense of time, sense, and identity. Ketamine is a dissociative anesthetic developed in 1963 to replace halothane.

Project Information

- Consultant presentation
- Consultant in Barrington, Illinois
- Consultant in Arizona

Production

- The development of topical analgesics: molecule, formulation, dose-finding
- Ketamine
- Club Drugs: An Overview
- The Development of Single Enantiomer drug from racemates
- Singapore History of Illicit Drugs

Properties and Functions

- Racemic ketamine
- Analgesic effect of caudal epidural ketamine in rats
- Effects of Naloxone/Dexcomorph

Materials Safety Data Sheet
- Ketamine
- Ketamine Hydrochloride
- Ketamine Hydrobromide

https://www.primaryinfo.com/industry/ketamine.htm