



16 February 2021

Job Number:	24738b
PO Number:	verbal

CERTIFICATE OF ANALYSIS

Emoxypine Succinate (Ethylmethylhydroxypyridine Succinate)

Material Lot #: 19072501 Manufacture Date: 07/25/2019
Country of Origin: China Retesting Date: 02/13/2023

Analysis	Claim	Result
Emoxypine Succinate	≥ 99.0%	99.86%
Test		
Appearance	Off-white or white crystalline powder.	Conforms
Solubility	Freely soluble in water. Soluble in methanol & alcohol.	Conforms
Light Transmittance	≥ 95.0%	98.96%
pH	4.0-6.0	4.60
Total Impurities	≤ 1.0%	0.015%
Loss on Drying	≤ 1.0%	0.25%
Residue on Ignition	≤ 0.1%	0.08%
Heavy Metals	≤ 10 ppm	Conforms
Residual Solvents		
Ethanol	≤ 0.5%	0.015%
Isopropanol	≤ 0.5%	Not Detected
Ethyl acetate	≤ 0.5%	0.009%

Emoxypine should be stored at or below room temperature in a tightly sealed durable container. Emoxypine should be protected from excess heat, direct sunlight, excess humidity and moisture. Emoxypine has a stable shelf life of 2 years from the date of testing when properly stored.

Synaptent LLC
47 W. Polk Street #100-241
Chicago, Illinois 60605

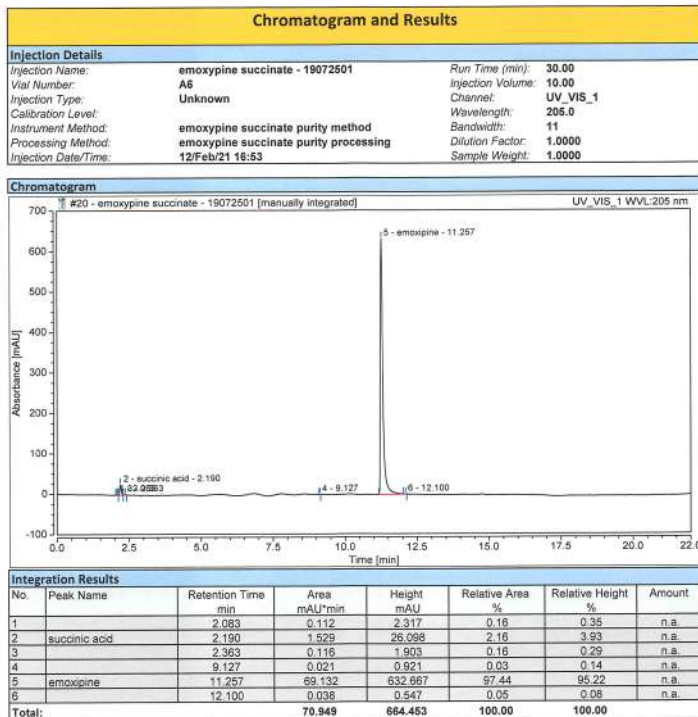
REPORT OF ANALYSIS

One bag labeled "Emoxypine succinate #19072501" was received on 9 February 2021. The powder in the package was analyzed for purity using high pressure liquid chromatography (HPLC). The detector was set to 205nm. The results are summarized in the table below.

Sample	Chromatographic Purity (% area)
Emoxypine succinate #19072501	99.6

The chromatogram is enclosed for your reference.

Neil E. Spingam
Neil E. Spingam, Ph.D.
President



Synaptent

Joseph Watkins
1442 W. Fulton Street
Chicago, IL 60607

ANALYTICAL REPORT

AR-21-QH-008635-01

Client Code: QH000902

PO Number: 20210204

Received On: 08Feb2021

Reported On: 17Feb2021

Eurofins Sample Code: 477-2021-02080053	Sample Registration Date: 08Feb2021		
Client Sample Code: 2020043002	Condition Upon Receipt: acceptable, 17.6°C		
Sample Description: Peony Root Extract	Sample Reference: 190102591873		
UMHBM - Staphylococcus aureus - BAM Chapter 12	Reference BAM Chapter 12	Accreditation ISO/IEC 17025:2017 A2LA 3329.07	Completed 14Feb2021
Parameter Staphylococcus aureus	Result < 10 cfu/g		
Eurofins Sample Code: 477-2021-02080054	Sample Registration Date: 08Feb2021		
Client Sample Code: 19072501	Condition Upon Receipt: acceptable, 17.6°C		
Sample Description: Emoxypine Succinate	Sample Reference: 19072501		
UMVSE - Aerobic Plate Count - CMMEF Chapter 8.72	Reference CMMEF Chapter 8.72	Accreditation ISO/IEC 17025:2017 A2LA 3329.07	Completed 14Feb2021
Parameter Aerobic Plate Count	Result < 10 cfu/g		
UMIB1 - Yeast - FDA BAM Chapter 18 mod.	Reference FDA BAM Chapter 18 mod.		Completed 17Feb2021
Parameter Yeast	Result < 10 cfu/g		
Parameter Moulds	Result < 10 cfu/g		
UMDP5 - Confirmation Total Coliforms - CMMEF Chapter 8.7	Reference CMMEF Chapter 8.7		Completed 15Feb2021
Parameter Coliforms	Result < 10 cfu/g		
UMCB1 - E. coli - CMMEF Chapter 9.933	Reference CMMEF Chapter 9.933	Accreditation ISO/IEC 17025:2017 A2LA 3329.07	Completed 13Feb2021
Parameter Escherichia coli	Result < 10 cfu/g		
UMDTC - Salmonella species - AOAC-RI 121501	Reference AOAC-RI 121501	Accreditation ISO/IEC 17025:2017 A2LA 3329.07	Completed 13Feb2021
Parameter Salmonella	Result Not Detected per 25 g		
UMHBM - Staphylococcus aureus - BAM Chapter 12	Reference BAM Chapter 12	Accreditation ISO/IEC 17025:2017 A2LA 3329.07	Completed 14Feb2021

Order # Sample ID: 2021-001282-01 **Company:** Synaptent LLC
Customer Sample ID: Emoxypine Succinate
Sample Description: Lot #19072501

Method:	Component:	Result:	Test Date:
^{1,2} Mercury	Mercury	<0.010 ppm	01-Mar-2021
Metals (ICP-MS)	Arsenic	42.4 ppb	22-Feb-2021
Metals (ICP-MS)	Cadmium	<10 ppb	22-Feb-2021
Metals (ICP-MS)	Lead	<10 ppb	22-Feb-2021

Order # Sample ID: 2021-001282-02 **Company:** Synaptent LLC
Customer Sample ID: L-Tetrahydropalmatine (L-THP)
Sample Description: Lot #20180610

Method:	Component:	Result:	Test Date:
^{1,2} Mercury	Mercury	<0.010 ppm	01-Mar-2021
Metals (ICP-MS)	Arsenic	<10 ppb	22-Feb-2021
Metals (ICP-MS)	Cadmium	<10 ppb	22-Feb-2021
Metals (ICP-MS)	Lead	<10 ppb	22-Feb-2021



812 Meadow Lark Lane, Goodlettsville, TN 37072
Telephone: 615-239-8604

Certificate of Analysis

Synaptent LLC
47 W Polk Street, 100-241
Chicago, IL 60654

Product Name	Emoxypine Succinate	Product Lot Number	19072501
Report Date	08/29/2019	Laboratory Number	12583

Description	Method	Result
Identification	H-NMR	Conforms to structure
Assay	HPLC	98.4%
Lead	ICP-MS USP <730>	0.015 ppm
Arsenic	ICP-MS USP <730>	<0.0001 ppm
Cadmium	ICP-MS USP <730>	0.009 ppm
Mercury	ICP-MS USP <730>	0.011 ppm

Collin Thomas
Laboratory Manager

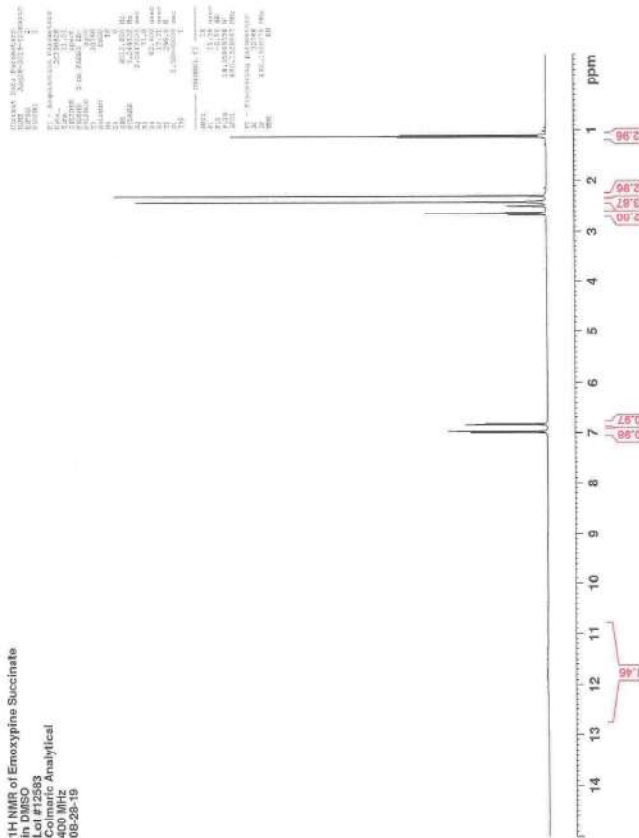
08/29/2019
Date

Medallion Labs maintains A2LA accreditation to ISO/IEC 17025 for the specific tests listed in certificates # 2769.01 and 2769.02. Medallion Labs' services, including this report, are provided subject to all provisions of Medallion's Standard Terms and Conditions, a copy of which appears at www.medallionlabs.com. Unless otherwise noted above, samples were received in acceptable condition and analyzed as received.

¹ This analysis is performed by a partner lab.

² This test is not considered in-scope of our current A2LA accreditation. For a listing of in-scope tests, please visit www.medallionlabs.com.

The result(s) stated in this report is only for the sample submitted. This report may not be reproduced in whole or in part, nor may any reference be made to the work, the result, or the company in any news release, public announcements or advertising without our prior written consent.



Safety Data Sheet

Trade name: Emoxypine Succinate (Mexidol)
Product Code: NMEMOXY99
Version: 1 / EN
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Print date: 2019/08/29
Revision date: 2019/08/29

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Chemical name: 2-Ethyl-6-methyl-3-hydroxypyridine succinate
Trade name: Emoxypine Succinate (Mexidol)
Product Code: NMEMOXY99
CAS No: 127464-43-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Uses:
Only for research and development use by, or directly under the supervision of, a technically qualified individual.

Uses advised against:
Not for use in humans or animals

1.3 Details of the supplier of the safety data sheet:

Supplier: Newmind
Name: Synaptent LLC
Address: 47 W Polk St #100-241
Chicago, IL 60605
Information contact: +1 888-679-6278
E-Mail: synaptent@synaptent.com

1.4 EMERGENCY TELEPHONE NUMBER:

Emergency# +1 888-679-6278 between 0900-1800 (UTC-6)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 [CLP] and US OSHA 1910.1200

Additional information:
No information available

2.2 Label elements

No information available

Safety Data Sheet

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Hazard pictograms

N/A

Signal word:

No information available

Hazard statements:

No information available

Precautionary statements:

No information available

2.3 Other hazards

No information available

SECTION 3: Composition/information on ingredients

Chemical name: 2-Ethyl-6-methyl-3-hydroxypyridine succinate
Trade name: Emoxypine Succinate (Mexidol)
Molecular Formula: C₁₂H₁₇NO₅
CAS No: 127464-43-1
EC No:

Purity: 99%

Synonyms: Emoxypine Succinate; Mexidol; (1-phenylpentan-2-yl)(propyl)amine hydrochloride; 2-Ethyl-6-methylpyridin-3-ol succinate; 2-Ethyl-6-methyl-3-hydroxypyridine succinate

3.2 Mixtures

No information available

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing contaminated by the product. Move out of dangerous area. Consult a physician and show this safety data sheet.

Following inhalation:

Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical aid.

Following skin contact:

Immediately flush skin with running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Obtain medical aid immediately.

Following eye contact:

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This Safety Data Sheet contains 16 sections. All 16 sections must be present for this document to be valid.

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Immediately flush open eyes with running water for at least 15 minutes. Obtain medical aid immediately

Following ingestion:

Do NOT induce vomiting without medical advice. Rinse mouth with water. Never administer anything by mouth to an unconscious person. Obtain medical aid immediately

4.2 Most important symptoms and effects, both acute and delayed

No further information available. Please see sections 2 and 11

4.3 Indication of any immediate medical attention and special treatment needed

No further information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Use water spray, dry chemical, carbon dioxide, or chemical foam

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides, Carbon oxides

5.3 Advice for fire-fighters

As in any fire, wear a NIOSH-approved or equivalent, pressure-demand, self-contained breathing apparatus and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.4 Additional information

No information available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment and keep unprotected personnel away. Ensure adequate ventilation. Remove all sources of ignition. Prevent further leak or spill if safe to do so. For personal protective equipment, please refer to section 8.

6.2 Environmental precautions

Do not let product enter drains, other waterways, or soil.

6.3 Methods and material for containment and cleaning up

Prevent further leak or spill if safe to do so. Vacuum, sweep up, or absorb with inert material and place into a suitable disposal container. Consult local regulations for disposal. See section 13 for further disposal information.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin, eyes, and personal clothing. Wash hands thoroughly after handling. Avoid breathing fumes. Use only with adequate ventilation. Wear suitable protective clothing, gloves, and eye/face protection. Keep away from sources of ignition. Minimize dust generation and accumulation. Keep container tightly closed. Open and handle container with care. Do not eat, drink, or smoke while handling.

Aerosol and dust generation prevention

No information available

7.2 Conditions for safe storage, including any incompatibilities

Store at room temperature or cooler, in a sealed airtight container, protected from heat, light and humidity.

7.3 Specific end uses

No information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No information available

8.2 Exposure controls

Appropriate engineering controls:

Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product. Facilities storing or utilizing this material should be equipped with an eyewash fountain. Use adequate general and local exhaust ventilation to keep airborne concentrations low.

Personal protective equipment:

No information available

Eye / Face protection:

Based on an evaluation of the eye or face hazards present, wear chemical splash-resistant safety glasses or goggles with side protection. A face shield may be appropriate in some workplaces. Use eyewear tested and approved under appropriate government standards such as OSHA 29 CFR 1910.133 or EU EN166.

Skin / Hand protection:

Hand protection:

Wear gloves selected based on an evaluation of the possible hazards to hands and skin, the duration of use, the physical conditions of the workplace, and the chemical resistance and physical properties of the glove material.

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Body protection:

Protective clothing must be selected based on the hazards present in the workplace, the physical environment, the duration of exposure, and other factors. No fabric can provide protection against all potential hazards; therefore it is important to select the appropriate protective clothing for each specific hazard. At the minimum, wear a laboratory coat and closed-toe footwear.

Respiratory protection:

Respirators are not a substitute for accepted engineering control measures such as enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials. When respiratory personal protective equipment is appropriate based on an assessment of respiratory hazards in the workplace, use a NIOSH- or CEN-certified respirator.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

A) Appearance White or off-white powder	B) Odor No data.
C) Odor Threshold No data.	D) pH No data.
E) Melting Point/Freezing Point 113°C	F) Initial Boiling Point/Boiling Range No data.
G) Flash point No data.	H) Evaporation Rate No data.
I) Flammability (Solid/Gas) No data.	J) Upper/Lower Flammability/Explosive Limits No data.
K) Vapor Pressure No data.	L) Vapour Density No data.
M) Relative Density No data.	N) Solubility Soluble in water, methanol and alcohol.
O) Partition Coefficient No data.	P) Auto-Ignition Temperature No data.
Q) Decomposition Temperature No data.	R) Viscosity No data.
S) Explosive Properties No data.	T) Oxidizing Properties No data.

9.2 Other information:

No information available

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SECTION 10: Stability and reactivity

- 10.1 Reactivity:** No information available
- 10.2 Chemical stability:** Stable for at least two years when stored as suggested
- 10.3 Possibility of hazardous reactions:** No information available
- 10.4 Conditions to avoid:** Dust generation.
- 10.5 Incompatible materials:** Strong oxidizing agents
- 10.6 Hazardous decomposition products:** Nitrogen oxides, Carbon oxides

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

	Effect dose / concentration	Value	Species	Method	Symptoms / delayed effects	Remark
Acute oral toxicity	No Available Information					
Acute dermal toxicity	No Available Information					
Acute inhalative toxicity (gas)	No Available Information					
Acute inhalative toxicity (vapour)	No Available Information					
Acute inhalative toxicity (dust/mist)	No Available Information					

Skin corrosion/irritation

No information available

Eye damage/irritation

No information available

Sensitisation to the respiratory tract/skin

No information available

Sensitisation to the respiratory tract

No information available

Skin sensitisation

No information available

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CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

No information available

Aspiration hazard

No information available

Reproductive Toxicity/Teratogenicity

No information available

Potential health effects and routes of exposure

Inhalation:

No information available

Ingestion:

No information available

Skin:

No information available

Eyes:

No information available

Signs and Symptoms of Exposure

Skin contact may result in inflammation characterized by itching, scaling, reddening, blistering, pain or dryness. Eye contact may result in redness, pain or severe eye damage. Inhalation may cause irritation of the lungs and respiratory system. Overexposure may result in serious illness or death.

SECTION 12: Ecological information

12.1 Toxicity:

No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects:

No information available

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

A) Product

Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. Observe all federal, state and local regulations when disposing of the substance.

B) Contaminated Packaging

Do not reuse containers. Dispose of as unused product.

C) Other Considerations

No information available

SECTION 14: Transport information

	Land transport (DOT)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	N/A	N/A	N/A	N/A
14.2 UN Proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.3 Transport hazard class(es) / Hazard label(s)	N/A	N/A	N/A	N/A
14.4 Packing group	N/A	N/A	N/A	N/A
14.5 Environmental hazards	None	None	None	None

14.6 Special precautions for user

No information available

SECTION 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 is not listed on the Canadian DSL/NDSL.

B) United States

TSCA Status: This product is not listed on the US EPA TSCA.

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C) European Union

ECHA Status: This product is not registered with the EU ECHA.

15.2 Chemical Safety Assessment

No information available

SECTION 16: Other information

16.1 Indication of changes

Original Publication Date: N/A

16.2 Abbreviations and acronyms

No information available

16.3 Further Information

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.

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