



## Specification

Product			
Product Name:	 ReliePal™ Water Dispersible PEA 90%		
Chemical Name:	Palmitoylethanolamide		
CAS No.:	544-31-0	Molecular Weight:	299.5
Molecular Formular:	C <sub>18</sub> H <sub>37</sub> NO <sub>2</sub>	Country of Origin:	P.R. China
Assay/Test	Specification	Test Method	
Active Ingredients			
Palmitoylethanolamide Assay (% , On Dried Base)	90.0%	HPLC	
Palmitoylethanolamide Purity	99.0%	HPLC	
Physical Control			
Appearance	Fine powder	Visual	
Color	White to off-white	Visual	
Identification	Positive	IR&1H NMR	
Loss on Drying	1.0% Max	CPh	
Residue on ignition	0.1% Max	CPh	
Chemical Control			
Heavy metals	NMT10PPM	CPh	
Lead (Pb)	NMT1PPM	ICP-MS	
Total Arsenic (As)	NMT1PPM	ICP-MS	
Cadmium (Cd)	NMT1PPM	ICP-MS	
Total Mercury (Hg)	NMT0.1PPM	ICP-MS	
Sulfate (SO <sub>4</sub> )	NMT0.040%	CPh	
Iron (Fe)	NMT10PPM	CPh	
Chloride (Cl)	NMT 0.02%	CPh	
Solvent Residual	Ethanol, ≤ 0.5%	GC	
Microbiological Control			
Total Plate Count	1000cfu/g Max	AOAC	
Yeast & Mold	100cfu/g Max	AOAC	
<i>Escherichia coli</i>	Negative/10g	AOAC	
<i>Salmonella species</i>	Negative/25g	AOAC	

### Package and Storage:

- 1.1 Pack in paper-drums and PE bags inside. 25kg/drum
- 1.2 Store in a well-closed container away from moisture and direct sunlight.
- 1.3 This material has a recommended shelf life of 2 years when stored in a cool, dry, light resistant environment.

## Certificate of Analysis

Product and Batch Information			
Product Name:		ReliePal™ Water Dispersible PEA 90%	
Chemical Name:	Palmitoylethanolamide	Country of Origin:	P.R. China
CAS No.:	544-31-0	Molecular Weight:	299.5
Molecular Formula:	C <sub>18</sub> H <sub>37</sub> NO <sub>2</sub>	Batch Number:	S20250425
Manufacture Date:	April 25, 2025	Expired Date:	April 24, 2027
Assay/Test	Specification	Result	Test Method
Active Ingredients			
Palmitoylethanolamide Assay (% On Dried Base)	90.0 %	90.5%	HPLC
Palmitoylethanolamide Purity	99.0%	99.8%	HPLC
Physical Control			
Appearance	Fine powder	Complies	Visual
Color	White to off-white	Complies	Visual
Identification	Positive	Complies	IR&1H NMR
Loss on Drying	1.0% Max	0.81%	CPh
Residue on ignition	0.1% Max	0.23%	CPh
Chemical Control			
Heavy metals	NMT10PPM	Conforms	CPh
Lead (Pb)	NMT1PPM	<0.1PPM	ICP-MS
Total Arsenic (As)	NMT1PPM	<0.05PPM	ICP-MS
Cadmium (Cd)	NMT1PPM	<0.05PPM	ICP-MS
Total Mercury (Hg)	NMT0.1PPM	<0.005PPM	ICP-MS
Sulfate (SO <sub>4</sub> )	NMT0.040%	Conforms	CPh
Iron (Fe)	NMT10PPM	Conforms	CPh
Chloride (Cl)	NMT 0.020%	Conforms	CPh
Solvent Residual	Ethanol, ≤ 0.5%	Not detected	GC
Microbiological Control			
Total Plate Count	1000cfu/g Max	<10cfu/g	AOAC
Yeast & Mold	100cfu/g Max	<10cfu/g	AOAC
<i>Escherichia coli</i>	Negative/10g	Conforms	AOAC
<i>Salmonella species</i>	Negative/25g	Conforms	AOAC

**Package and Storage:**

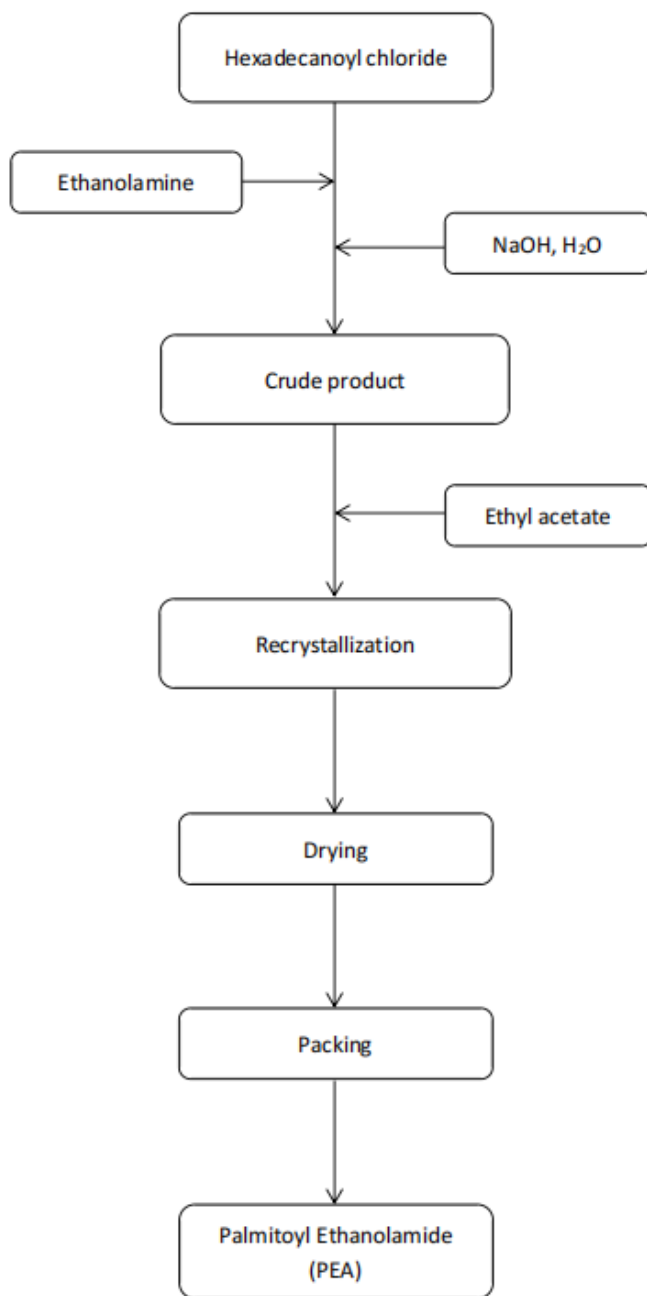
- 1.4 Pack in paper-drums and an aluminum foil lined-bag inside. 25kg/drum
- 1.5 Store in a well-closed container away from moisture and direct sunlight.
- 1.6 This material has a recommended shelf life of 2 years when stored in a cool, dry, light resistant environment.

Analyst: Cong Zhang

Review: Fang Fan



## Flow Chart of Palmitoylethanolamide (PEA)



# Material Safety Data Sheet

## Section 1. Chemical Identification

**Product Name:** Palmitoylethanolamide

**Synonyms:** Palmitoyl Ethanolamide; N-(2-hydroxyethyl)-hexadecanamide; Palmidrol; PEA

## Section 2. Hazards Identification

**Emergency Overview:** Avoid contact and inhalation.

**Potential Health Effects (Acute and Chronic):** Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, or skin absorption. May cause eye, skin, or respiratory system irritation.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

**Medical Conditions Generally Aggravated By:** No data available.

## Section 3. Information on Ingredients

Chemical Name	CAS No.	EC No.	Risk Phrases
Palmitoylethanolamide	544-31-0	208-867-9	No phrase apply

## Section 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

## Section 5. Fire Fighting Measures

**Flash Pt:** No data.

**Explosive Limits:** LEL: No data. UEL: No data.

**Autoignition Pt:** No data available.

**Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand



(NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**Flammable Properties and Hazards:** No data available.

**Hazardous Combustion Products:** No data available.

**Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.

## Section 6. Accidental Release Measures

### Steps to Be Taken in Case Material is Released or Spilled:

Avoid release into the environment.

Avoid raising and breathing dust and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Transfer to a chemical waste container for disposal

## Section 7. Handling and Storage

**Hazard Label Information:** Avoid contact with skin and eyes.

Do not reuse this container. Use with adequate ventilation.

Wash thoroughly after handling.

**Precautions To Be Taken in Handling:** Avoid breathing (dust, vapor, mist, gas).

Avoid prolonged or repeated exposure.

**To Be Taken in Storing:** keep tightly closed. Store at correct temperature.

## Section 8. Exposure Controls/Personal Protection

Chemical Name	Cas No	OSHA PEL	ACGIHTLV	Other Limits
Palmitoylethanolamide	544-31-0	No Data	No Data	No Data

**Protective Equipment Summary – Hazard Label Information:** Compatible chemical-resistant gloves, Eye wash station in work area, Lab coat, Safety glasses, Safety shower in work area, Vent Hood

**Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.

**Eye Protection:** Safety glasses

**Protective Gloves:** Compatible chemical-resistant gloves

**Other Protective Clothing:** Lab coat

**Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.



**Work/Hygienic/Maintenance Practice:** Do not take internally.

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Wash thoroughly after handling.

## Section 9. Physical and Chemical Properties

**Physical States:**  Gas  Liquid  Solid

**Melting Point:** No data.

**Boiling Point:** No data.

**Autoignition Pt:** No data.

**Flash Pt:** No data.

**Specific Gravity (Water = 1):** No data.

**Vapor Pressure (vs. Air or mm Hg):** No data.

**Vapor Density (vs. Air = 1):** No data.

**Evaporation Rate:** No data

**Solubility in Water:** No data.

**Solubility Notes:** ~0.01 mg/ml in EtOH:PBS (pH 7.2) (1:10); ~2 mg/ml in EtOH; ~5 mg/ml in DMSO; ~10 mg/ml in DMF;

**Percent Volatile:** No data.

**Formula:** C<sub>18</sub>H<sub>37</sub>NO<sub>2</sub>

**Molecular Weight:** 299.50

**Appearance and Odor:** A crystalline solid

## Section 10. Stability and Reactivity

**Stability:** Unstable  Stable

**Conditions To Avoid - Instability:** No data available.

**Incompatibility - Materials to Avoid:** strong oxidizing agents

**Hazardous Decomposition or Byproducts:** carbon dioxide  
carbon monoxide  
nitrogen oxides

**Possibility of Hazardous Reactions:** will occur  Will not occur

**Conditions to Avoid - Hazardous Reaction:** No data available.

## Section 11. Toxicological Information

The toxicological effects of this product have not been thoroughly studied.

**Chronic Toxicological Effects:** No data available.

Chemical Name	Cas No	NTP	IARC	ACGIH	OSHA
Palmitoylethanolamide	544-31-0	n.a.	n.a.	n.a.	n.a.



## Section 12. Ecological Information

Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

## Section 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

## Section 14. Transport Information

### LAND TRANSPORT (US DOT)

**DOT Proper Shipping Name** Not dangerous goods.

### LAND TRANSPORT (European ADR/RID)

**ADR/RID Shipping Name** Not dangerous goods.

### AIR TRANSPORT (ICAO/IATA)

**ICAO/IATA Shipping Name** Not dangerous goods.

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

## Section 15. Regulatory Information

### European Community Hazard Symbol codes

No data available.

### European Community Risk and Safety Phrases

S24/25- Avoid contact with skin and eyes.

S37/39- Wear suitable gloves and eye/face protection.

### US EPA SARA Title III

Chemical Name	CAS No	Sec.302(EHS)	Sec.304 RQ	Sec.313(TRI)	Sec.110
Palmitoylethanolmide	544-31-0	No	No	No	No

### Other US EPA or State Lists

Chemical Name	CAS No	CAA, HAP, ODC	CWA NPDES	TSCA	CA PROP.65
Palmitoylethanolmide	544-31-0	No	No	Inventory	No

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

## 16. Other Information Company Policy or Disclaimer

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