Safety Data Sheet (MSDS)

According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards

Revision Date: 25 FEB 2026

Product Name: Gabapentin CAS:60142-96-3

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifiers

- Product Name: Gabapentin
- Product Number: GAB-20260225
- Brand: SIGALD
- CAS-No.: 60142-96-3
- Synonyms: 1-(Aminomethyl)cyclohexaneacetic acid; Neurontin

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI)PILOT FREE TRADE ZONE.
- Telephone: +86-021-50350029
- Fax: +86-021-50350029

1.3 Emergency telephone

- Emergency Phone #: +86-021-50350029 (CHEMTREC)

1.4 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

- Identified Uses: Pharmaceutical raw material for anti-epileptic and neuropathic pain drug production.
- Uses Advised Against: Direct human consumption; non-pharmaceutical industrial use; unauthorized formulation; veterinary use without official approval.

SECTION 2: Hazards Identification

Summary of Emergency Measures	**White crystalline powder. Low acute toxicity. After inhalation: Move to fresh air if discomfort occurs. In case of skin contact: Rinse skin with water; no special treatment needed. After eye contact: Rinse with plenty of water for 5-10 minutes; consult a doctor if irritation persists. After swallowing: Rinse mouth with water; consult a doctor if gastrointestinal discomfort occurs. Non-combustible. No risk of explosion.**

2.1 GHS Classification

- Acute toxicity, oral (Category 5); Eye irritation (Category 2); Specific target organ toxicity (single exposure), central nervous system (Category 3)2.2 GHS Label Elements
- Hazard Pictograms: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
  - H303: May be harmful if swallowed
  - H319: Causes serious eye irritation

- H335: May cause respiratory irritation; affects central nervous system
- Precautionary Statements:
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray
- P264: Wash hands thoroughly after handling
- P270: Do not eat, drink or smoke when using this product
- P280: Wear protective eye protection/face protection
- P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

2.3 Physical and Chemical Hazards

- Based on current information: No physical or chemical hazards; non-combustible, no explosive properties under normal conditions.2.4 Health Hazards
- Based on current information: Low acute toxicity; mild eye irritation in all individuals; CNS effects (drowsiness, dizziness) if large amounts are ingested/absorbed; no chronic toxic effects reported.2.5 Environmental Hazards
- Based on current information: Environmentally friendly; low aquatic toxicity; biodegradable in natural water bodies; no adverse effects on aquatic organisms.2.6 Other Hazards
- No additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure chemical compound (100% Gabapentin) | 3.1 Main Components | Gabapentin (100% w/w) | | --- | --- | | Formula | $C_9H_{17}NO_2$ | | Molecular Weight | 171.24 g/mol | | CAS-No.: | 60142-96-3 | | EC-No.: | 262-086-2 |

Hazardous Ingredients

Component	Classification	Concentration (w/w)
Gabapentin	Acute toxicity oral Cat 5; Eye irritation Cat 2	100%

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: Move victim to fresh air. No special treatment required if no discomfort; consult a doctor if dizziness or cough persists.
- In Case of Skin Contact: Rinse skin with running water for 5 minutes. Remove contaminated clothing; wash clothing before reuse. No further treatment needed for normal contact.
- In Case of Eye Contact: Rinse eyes thoroughly with plenty of running water for 5-10 minutes. Remove contact lenses if present. Consult a doctor if redness or irritation occurs.
- If Swallowed: Rinse mouth with water. Do not induce vomiting. Consult a doctor if nausea, abdominal pain or drowsiness occurs.4.2 Most Important Symptoms and Effects, Both Acute and Delayed
- Acute Effects: Serious eye irritation; mild gastrointestinal discomfort (nausea) if swallowed; drowsiness/dizziness (CNS effects) at high ingestion doses.

- Delayed Effects: No known delayed toxic effects based on current data.4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed
- No specific medical treatment required; treat symptomatically if needed (e.g., eye drops for irritation).4.4 Notes to Physician
- Inform the physician of gabapentin exposure; monitor CNS function if large amounts are ingested.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media: Water spray, foam, carbon dioxide (CO_2), dry powder.
- Unsuitable Extinguishing Media: No limitations of extinguishing agents.5.2 Special Hazards Arising from the Substance or Mixture
- Non-combustible; no hazardous combustion gases generated; decomposes at high temperature (>300℃) to release non-toxic carbon dioxide and water vapor.5.3 Advice for Firefighters
- No special protective equipment required; wear standard fire-fighting gear (helmet, fire coat, gloves); avoid inhalation of dust from high-temperature decomposition.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear nitrile rubber gloves and safety goggles; ensure good ventilation; evacuate non-essential personnel if large spills occur.6.2 Environmental Precautions
- No special environmental precautions; the product is low-toxic and biodegradable; prevent large spills from entering water bodies to avoid temporary turbidity.6.3 Methods and Materials for Containment and Cleaning Up
- Small Spill: Sweep up with a clean brush and transfer to a sealed container for reuse or disposal.
- Large Spill: Contain with plastic barriers; transfer to sealed HDPE drums for professional disposal; rinse the spill area with water.6.4 Reference to Other Sections
- For disposal, see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated, dust-free area; avoid dust generation and inhalation; use closed handling systems for large-scale production.
- Avoid contact with strong acids, strong bases, or high-temperature environments (≥ 100℃) to prevent structural degradation.
- Hygiene Measures: Wash hands after handling; no restrictions on eating/drinking in workplace (if hygiene is maintained).7.2 Conditions for Safe Storage, Including Any Incompatibilities
- Storage Conditions: Store in a cool, dry, well-ventilated warehouse. Keep container tightly closed. Avoid direct sunlight and high temperatures (storage temperature ≤ 25℃).
- Incompatibilities: Strong acids (pH < 3), strong bases (pH > 10), strong oxidizing agents.

- Storage Class (TRGS 510): 13 (Non-Hazardous Solids)
- Shelf Life: 24 months (unopened, under specified storage conditions).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

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Component	CAS-No.	Value	Control Parameters	Basis
Gabapentin	60142-96-3	No occupational exposure limits	-	No relevant national/international exposure standards

8.2 Exposure Controls

- Engineering Controls: No special engineering controls required; ensure basic ventilation and dust collection for large-scale handling.
- Personal Protective Equipment (PPE):
  - Eye/Face Protection: Chemical safety glasses recommended for all handling to avoid dust contact with eyes.
  - Skin Protection: Nitrile rubber gloves recommended for prolonged contact.
  - Respiratory Protection: N95 dust mask recommended for high-dust environments; not required for normal handling.
- Control of Environmental Exposure: No special environmental exposure controls.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Propertiesa) Physical State: Solid (crystalline powder)b) Color: Whitec) Odor: Practically odorlessd) Melting Point/Freezing Point: 162-166℃ (decomposition)e) Initial Boiling Point and Boiling Range: Decomposes before boiling (>200℃)f) Flammability (Solid): Non-combustibleg) Upper/Lower Flammability or Explosive Limits: Not applicableh) Flash Point: Not applicablei) Autoignition Temperature: >400℃j) Decomposition Temperature: ≥160℃ (mild decomposition, no toxic products)k) pH Value (25℃): 5.0-7.0 (1% aqueous solution)l) Viscosity (25℃): N/A (solid)m) Water Solubility: Soluble (14 g/100 mL at 25℃)n) Partition Coefficient (n-octanol/water): Log P = -1.23o) Vapor Pressure (25℃): <0.001 hPa (negligible)p) Density (25℃): 1.13 g/cm³ (solid)q) Relative Vapor Density: N/Ar) Particle Characteristics: Crystalline powder, 90% passing 100 mesh (pharmaceutical grade)s) Explosive Properties: Not explosivet) Oxidizing Properties: None

9.2 Other Safety Information

- No additional safety-related physical/chemical data.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage conditions (≤25℃, sealed, dry).10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and handling conditions.10.3 Conditions to Avoid: High temperature (>160℃), direct sunlight, moisture, contact with strong acids/alkalis/oxidizing agents.10.4 Incompatible Materials:

Concentrated sulfuric acid, sodium hydroxide (50%+), hydrogen peroxide (30%+), potassium permanganate.10.5 Hazardous Decomposition Products: No hazardous decomposition products; mild thermal decomposition produces carbon dioxide, water and ammonia at high temperature (>300℃).

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- Acute Toxicity:
  - Oral (Rat, LD_{50}): >3000 mg/kg
  - Dermal (Rabbit, LD_{50}): >5000 mg/kg
  - Inhalation (Rat, LC_{50}): >10 mg/m³ (4-hour exposure)
- Skin Corrosion/Irritation: No irritation (Rabbit, 4-hour exposure).
- Serious Eye Damage/Eye Irritation: Category 2 (mild to moderate irritation, reversible in 72h; Rabbit, 24-hour exposure).
- Respiratory or Skin Sensitization: No sensitizing effects (human and animal studies).
- Germ Cell Mutagenicity: Negative (Ames test, chromosome aberration test).
- Carcinogenicity: Not classified as carcinogenic by IARC, EPA, or NTP.
- Reproductive Toxicity: No reproductive toxicity reported; safe for reproductive health at normal occupational exposure.
- Specific Target Organ Toxicity (Single/Repeated Exposure): CNS effects (drowsiness) at high doses; no target organ toxicity at normal exposure.
- Aspiration Hazard: Low (solid powder, low dustiness).

11.2 Additional Information

- The toxicological properties have been sufficiently studied for safe pharmaceutical and industrial use.

SECTION 12: Ecological Information

12.1 Toxicity:

- Fish (Zebrafish, LC_{50}): >5000 mg/L (96-hour exposure)
- Daphnia (EC_{50}): >1000 mg/L (48-hour exposure)
- Algae (EC_{50}): >5000 mg/L (72-hour exposure)12.2 Persistence and Degradability: Fully biodegradable (BOD_5/COD > 0.7) in aquatic and soil environments; degrades within 28 days.12.3 Bioaccumulative Potential: No bioaccumulation potential (Log P = -1.23); does not accumulate in aquatic organisms or soil fauna.12.4 Mobility in Soil: Low mobility; binds to soil organic matter; no leaching to groundwater.12.5 Results of PBT and vPvB Assessment: Not classified as PBT/vPvB.12.6 Endocrine Disrupting Properties: No data available; no endocrine disruption reported in studies.12.7 Other Adverse Effects: No known adverse ecological impacts; low environmental risk.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- Product Waste: Small amounts can be disposed of with non-hazardous solid waste; large amounts should be incinerated at licensed waste treatment facilities in accordance with local regulations.
- Packaging Waste: Rinse packaging with water; dispose of as non-hazardous waste or recycle (plastic/glass packaging).
- Note: Comply with local, national, and international waste disposal regulations.

SECTION 14: Transport Information

14.1 UN Number: ADR/RID: -; IMDG: -; IATA-DGR: -14.2 UN Proper Shipping Name: ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods14.3 Transport Hazard Class(es): ADR/RID: -; IMDG: -; IATA-DGR: -14.4 Packaging Group: ADR/RID: -; IMDG: -; IATA-DGR: -14.5 Environmental Hazards: ADR/RID: No; IMDG Marine Pollutant: No; IATA -DGR: No14.6 Special Precautions for User: Transport at ≤25℃; avoid direct sunlight, high temperature, and moisture; use sealed packaging to prevent dust leakage.14.7 Incompatible Materials: Avoid transport with strong acids, strong bases, or oxidizing agents.

Further Information: Not classified as dangerous under transport regulations.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- National Regulations (China):
  - Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
  - Pharmacopoeia of the People's Republic of China (2020)
  - Pharmaceutical Administration Law of the People's Republic of China
- International Regulations:
  - GHS Classification (Rev. 9): Non-hazardous main category; minor eye irritation
  - REACH (EU): Registered; not listed in SVHC Candidate List
  - TSCA (US): Listed on the TSCA Inventory; FDA-regulated pharmaceutical raw material

15.2 Other Regulations: Comply with local pharmaceutical manufacturing and handling regulations; indoor use meets occupational health standards.

SECTION 16: Other Information

- Further Information: This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519, and GHS standards. It is intended for safe handling, storage, transport, and disposal. The supplier is not liable for damage caused by improper use or non-compliance with safety precautions.
- Revision Date: 25 FEB 2026