



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

Safety Data Sheet (MSDS)

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

Phenacetin (Acetophenetidin)

Revision Date: 22 FEB 2026

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

1.1 Product Identifiers

- Product Name: Phenacetin
- Product Number: PNT-20260222
- Brand: SIGALD
- CAS-No.: 62-44-2
- Synonyms: Acetophenetidin; N-(4-Ethoxyphenyl)acetamide; 4'-Ethoxyacetanilide
- EINECS/EC-No.: 200-533-0

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: 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 and Uses Advised Against

- Identified Uses: Organic synthesis intermediate; laboratory analytical reference material; fine chemical raw material for research purposes.
- Uses Advised Against: **Strictly not for pharmaceutical, medical, veterinary or human consumption**; no use as food additive or cosmetic raw material; avoid use in drug formulation or biological experiment involving human/animal subjects.

SECTION 2: Hazards Identification

| Summary of Emergency Measures | White crystalline powder with almost no odor. Harmful if swallowed; causes serious eye irritation; may cause kidney and blood organ damage through prolonged or repeated exposure. After inhalation: Move to fresh air, rest if coughing occurs. In case of skin contact: Rinse with plenty of water for 5 minutes. After eye contact: Rinse with plenty of water for 15 minutes and call a doctor immediately. After swallowing: Rinse mouth with water, do not induce vomiting; seek medical advice at once. Non-flammable, no explosion risk under normal conditions. | | --- |

2.1 GHS Classification

- Acute toxicity, oral (Category 4)
- Serious eye irritation (Category 2A)
- Specific target organ toxicity (repeated exposure) (Category 2), target organs: Kidney, Blood
- Eye irritation (Category 2A)



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2.2 GHS Label Elements

- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
 - H302: Harmful if swallowed
 - H319: Causes serious eye irritation
 - H373: May cause damage to organs (kidney, blood) through prolonged or repeated exposure
- Precautionary Statements:
 - P261: Avoid breathing dust/fume/gas/mist/vapors/spray
 - P264: Wash skin thoroughly after handling
 - P270: Do not eat, drink or smoke when using this product
 - P280: Wear protective gloves/eye protection/face protection
 - P302+P352: If on skin: Wash with plenty of water and soap
 - P305+P351+P338+P310: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
 - P304+P340: If inhaled: Remove person to fresh air and keep comfortable for breathing
 - P312: Call a POISON CENTER or doctor/physician if you feel unwell
 - P333+P313: If skin irritation or rash occurs: Get medical advice/attention
 - P362+P364: Take off contaminated clothing and wash it before reuse
 - P405: Store locked up
 - P501: Dispose of contents/container to an approved waste disposal plant

2.3 Physical and Chemical Hazards Non-flammable solid; no explosive or oxidizing properties under normal conditions; high temperature (>200°C) causes thermal decomposition to produce mild irritating gases (nitrogen oxides, carbon monoxide); free-flowing crystalline powder, no dust explosion risk under normal use; stable under recommended storage conditions.

2.4 Health Hazards

- Acute: Harmful if swallowed, may cause nausea, abdominal pain and dizziness; serious eye irritation (redness, tearing, blurred vision) upon contact; mild respiratory irritation if inhaled as high-concentration dust; no significant skin irritation upon short-term contact.
- Chronic: Prolonged or repeated exposure (inhalation/skin contact) may cause kidney damage and blood system disorders; no known skin sensitization effects.

2.5 Environmental Hazards Low acute toxicity to aquatic organisms; poor biodegradability in natural environment; low bioaccumulation potential; avoid direct discharge into water bodies or soil; no persistent organic pollutants identified.

2.6 Other Hazards No additional hazards identified under normal use and storage conditions.

SECTION 3: Composition/Information on Ingredients



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- Substance / Mixture: **Pure Substance** | 3.1 Main Component | Phenacetin | |---| ---
| | Formula | C₁₀ H₁₃NO₂ | | Molecular Weight | 179.22 g/mol | | CAS-No.: | 62-44-2 | | EC-No.: | 200-533-0 |
表格

Component	Classification	Concentration (w/w)
Phenacetin	Acute Oral Tox.4; Eye Irrit.2A; STOT RE 2	≥99.0%

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: Move victim to fresh air immediately, keep in a comfortable breathing position. Loosen tight clothing; provide oxygen if breathing is difficult. Do not induce coughing; consult a doctor if cough or throat irritation persists for more than 24 hours.
- In Case of Skin Contact: Remove all contaminated clothing and gloves immediately. Rinse affected skin with plenty of running water and mild neutral soap for at least 5 minutes. Pat dry gently; no special ointment needed unless irritation occurs. Seek medical advice if redness or rash appears.
- In Case of Eye Contact: **Immediate and thorough flushing is critical.** Hold eyelids open and rinse thoroughly with clean running water for at least 15 minutes, ensuring water flushes the entire eye surface (including under the eyelid). Do not rub eyes; remove contact lenses only if easy to do without additional damage. **Call an ophthalmologist or emergency room immediately** regardless of symptoms.
- If Swallowed: Rinse mouth with plenty of clean water (do not swallow). Do not induce vomiting (risk of esophageal irritation and aspiration). If conscious and alert, drink a small amount of water to dilute; **call a POISON CENTER or doctor immediately** even if no symptoms are present.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Acute: Nausea, abdominal pain, dizziness (swallowing); severe eye redness, tearing, blurred vision (eye contact); mild cough, throat irritation (inhalation).
- Delayed: Kidney function impairment, blood cell abnormality (2-4 weeks after prolonged/repeated exposure); no known immediate delayed toxic effects within 48 hours.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

All eye contact and swallowing cases require **immediate professional medical attention**; prolonged/repeated exposure with suspected organ damage needs regular kidney and blood function tests; no specific antidote, treat symptomatically (e.g., eye irrigation, gastrointestinal protection, supportive care for organ damage).

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable: Water spray (cooling and dust suppression), carbon dioxide (CO₂), dry chemical powder, foam.



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- Unsuitable: No limitations of extinguishing agents; avoid direct high-pressure water jet to prevent dust spread.

5.2 Special Hazards Arising from the Substance or Mixture Non-combustible solid; high temperature (>200°C) thermal decomposition produces low-toxic irritating gases (nitrogen oxides, carbon monoxide, carbon dioxide); no explosive decomposition during fire; dust may cause mild respiratory irritation to firefighters; no toxic metal fumes generated.

5.3 Advice for Firefighters Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear if thermal decomposition gases are present. Keep containers cool with water spray during fire to prevent decomposition. Evacuate to upwind areas; avoid inhaling decomposition fumes. Prevent fire-extinguishing water from entering municipal sewers or natural water bodies.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures Wear nitrile rubber gloves, chemical-resistant safety goggles, and a half-face air-purifying respirator with dust cartridges for large spills. Ensure good ventilation at the spill site; evacuate non-essential personnel and set up a warning zone. Avoid inhaling dust and direct skin/eye contact; do not walk through spilled powder.

6.2 Environmental Precautions Prevent spilled powder from entering sewers, rivers, lakes, soil or storm drains. Cover spilled powder with plastic sheeting to avoid spreading with wind; do not wash spilled powder into drains with large amounts of water.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Gently sweep up the powder with a dry broom and collect into a sealed HDPE container with hazard labels; wipe the spill area with a dry cloth and dispose of the cloth in the same container.
 - Large Spill: Contain the powder with sandbags or plastic sheeting, collect with a dry explosion-proof vacuum cleaner into sealed HDPE drums; do not use water for cleaning to avoid clumping and water pollution.
- 6.4 Reference to Other Sections For waste disposal, see Section 13; for personal protection, see Section 8.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling Operate in a well-ventilated area with local exhaust ventilation (to suppress dust); wear specified PPE for all operations. Avoid generating dust (gentle mixing, no violent shaking); dissolve in organic solvents (ethanol/methanol) as directed, do not mix with strong oxidizing agents or strong acids. Do not eat, drink or smoke in the work area; wash hands, face and exposed skin thoroughly with soap and water after handling. Keep the product away from food, feed and drinking water.

7.2 Conditions for Safe Storage

- Storage Conditions: Store in a **cool, dry, well-ventilated** warehouse. Temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$. Keep the container tightly sealed to prevent moisture absorption and



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caking; store in original HDPE or amber glass containers. Store away from direct sunlight and heat sources (heaters, boilers).

- Incompatibilities: Strong oxidizing agents (H_2O_2 , $KMnO_4$), strong mineral acids (concentrated HCl/H_2SO_4), strong bases ($NaOH$, KOH), high temperature ($>200^\circ C$).
- Storage Class (TRGS 510): 9 (Miscellaneous Hazardous Substances)
- Shelf Life: 24 months (unopened, under the specified storage conditions).
- Segregation: Store separately from oxidizing agents, acids, bases, food, feed and pharmaceutical raw materials; place in a dedicated locked hazardous substance storage area with a dust-proof cover; keep away from incompatible materials with a minimum distance of 1 meter.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL) for Phenacetin: TWA $5\text{ mg}/\text{m}^3$ (8-hour, ACGIH); STEL $10\text{ mg}/\text{m}^3$ (15-minute, ACGIH)
- Biological Limit Value (BLV): No relevant national/international standards available.

8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (LEV) with dust collection system for powder handling; dust-proof operation tables; humidity control in the work area ($\leq 60\%$) to prevent caking.
- Personal Protective Equipment (PPE) - **MANDATORY for all operations:**
 - Eye/Face Protection: Chemical-resistant safety goggles (mandatory); full face shield for large-scale handling or spill cleanup.
 - Skin Protection: Nitrile rubber gloves (thickness $\geq 0.30\text{ mm}$), chemical-resistant lab coat, disposable arm sleeves; replace gloves immediately if damaged.
 - Respiratory Protection: Half-face air-purifying respirator with dust cartridges for routine operations; full-face SCBA for confined space or large spill emergency.
 - Other: Disposable dust mask for basic dust protection; clean work clothes after each use; no open-toed shoes in the work area.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties
a) Physical State: Crystalline solid (powder)
b) Color: White
c) Odor: Almost odorless
d) Melting Point/Freezing Point: $133-136^\circ C$
e) Boiling Point: Decomposes ($>200^\circ C$, no boiling)
f) Flammability: Non-flammable
g) Flammability Limits: Not applicable
h) Flash Point: Not applicable (solid)
i) Autoignition Temperature: Not applicable
j) Decomposition Temperature: $\geq 200^\circ C$ (nitrogen oxides, CO released)
k) pH Value (1% suspension, $25^\circ C$): 5.0-7.0
l) Viscosity: Not applicable (solid powder)
m) Solubility: Slightly soluble in water ($\leq 1\text{ g}/\text{L}$, $25^\circ C$); soluble in ethanol/methanol/acetone ($\geq 20\text{ g}/\text{L}$, $25^\circ C$); insoluble in ether/benzene/hexane
n) Partition Coefficient ($\log P$, n-octanol/water): 1.85 ($25^\circ C$)
o) Vapor Pressure ($25^\circ C$): $< 0.001\text{ kPa}$
p) Bulk Density ($25^\circ C$): $0.85-0.90\text{ g}/\text{cm}^3$
q) Relative Vapor Density: N/A

(solid)r) Evaporation Rate: Not applicables) Explosive Properties: No explosive proprietiest)
Oxidizing Properties: None

9.2 Other Safety Information Absorbs slight moisture in high humidity environment, may cause mild caking (no effect on purity after drying); good solubility in polar organic solvents, suitable for organic synthesis reaction systems.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under the recommended storage and handling conditions ($\leq 25^{\circ}\text{C}$, dry, sealed); no chemical changes under normal industrial processing conditions ($\leq 100^{\circ}\text{C}$).

10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and processing conditions; reacts with strong oxidizing agents to produce nitrogen-containing byproducts; decomposes at high temperature ($>200^{\circ}\text{C}$); no hazardous polymerization occurs under any conditions. 10.3 Conditions to Avoid: High temperature ($>200^{\circ}\text{C}$), direct sunlight, high humidity ($>60\%$), contact with incompatible materials, confined spaces with poor ventilation. 10.4 Incompatible Materials: Strong oxidizing agents, strong mineral acids, strong bases, peroxides, acid anhydrides. 10.5 Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide (high-temperature decomposition); no toxic or explosive decomposition products under normal conditions.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- Acute Toxicity:
 - Oral (Rat, LD_{50}): 1000 mg/kg (Harmful)
 - Dermal (Rabbit, LD_{50}): >5000 mg/kg (Practically non-toxic via dermal route)
 - Inhalation (Rat, LC_{50}): 15 mg/m³ (4-hour dust exposure, Mildly irritating)
- Skin Corrosion/Irritation: Rabbit 4-hour closed patch test - no significant irritation (no erythema/edema).
- Serious Eye Damage/Irritation: Rabbit eye test - severe conjunctival redness, tearing and mild corneal opacity (Category 2A), reversible with medical treatment within 72 hours.
- Respiratory Irritation: Rat inhalation test - mild bronchial irritation at dust concentrations ≥ 50 mg/m³, no persistent respiratory damage.
- Mutagenicity/Carcinogenicity: Ames test, chromosome aberration test - negative; IARC Classification - Group 3 (not classifiable as to carcinogenicity to humans); no known carcinogenic effects in animal tests.
- Reproductive Toxicity: No adverse reproductive or developmental effects in animal tests at relevant doses; no teratogenic or embryotoxic effects identified.
- Specific Target Organ Toxicity (Repeated Exposure): Rat 90-day repeated exposure test - kidney tubule damage and reduced red blood cell count at high doses (≥ 50 mg/kg/day); target organs: **Kidney, Blood.**

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, 96h LC₅₀): 3500 mg/L (powder suspension)
 - Daphnia (48h EC₅₀): 3000 mg/L (powder suspension)
 - Freshwater Algae (72h EC₅₀): 4000 mg/L (powder suspension)
- 12.2 Persistence and Degradability: Poorly biodegradable (BOD₅/COD = 0.15); degraded by photolysis in natural environment within 30-40 days; no rapid biodegradation by microorganisms.
- 12.3 Bioaccumulative Potential: Low (log P=1.85); no significant bioaccumulation in aquatic organisms and food chain; no biomagnification observed.
- 12.4 Mobility in Soil: Low mobility (slightly water-soluble); easily adsorbed to soil organic matter, no significant leaching risk to groundwater.
- 12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB substances (poor persistence, low bioaccumulation, low toxicity).
- 12.6 Other Adverse Effects: No known adverse effects on soil microorganisms, terrestrial plants and aquatic beneficial bacteria at normal environmental concentrations; avoid large-scale direct discharge into water bodies.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- Product Waste: Expired/caked/contaminated Phenacetin is classified as **miscellaneous hazardous waste**; dispose of by licensed hazardous waste treatment facilities via high-temperature incineration ($\geq 800^{\circ}\text{C}$) with flue gas treatment to remove nitrogen oxides and carbon monoxide. Recycle and reuse the uncontaminated waste powder if possible after drying and purification.
- Packaging Waste: Rinse packaging with ethanol to remove residual powder, collect rinsing waste for hazardous disposal; dispose of contaminated packaging as hazardous waste; recycle clean and uncontaminated HDPE/glass packaging after thorough cleaning.
- Unused Product: Do not discharge to the environment; recover and reuse if possible; incinerate by a licensed hazardous waste treatment company if expired or unusable, in accordance with local and international hazardous waste regulations.
- Disposal Compliance: Comply with China HW49 (Other Hazardous Waste), EU EWC 100201, US RCRA Subtitle C (Hazardous Waste).

SECTION 14: Transport Information

- 14.1 UN Number: ADR/RID: 3077; IMDG: 3077; IATA-DGR: 3077
- 14.2 UN Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Phenacetin)
- 14.3 Transport Hazard Class: 9 (Miscellaneous hazardous substances and articles)
- 14.4 Packaging Group: III (Minor hazard)
- 14.5 Environmental Hazards: IMDG Marine Pollutant: **No**
- 14.6 Special Precautions for Transport: Transport in sealed HDPE plastic drums or amber glass bottles with inner plastic lining and dust-proof caps; affix Class 9 hazard labels and product identification labels (Phenacetin - Organic Synthesis Intermediate, NOT FOR MEDICAL USE). Transport temperature $\leq 30^{\circ}\text{C}$, relative humidity $\leq 60\%$; avoid direct sunlight, rain, moisture, collision and extrusion during transport. Do not transport with strong oxidizing agents, acids, bases, food, feed or pharmaceutical raw



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materials; transport in a dedicated compartment of Class 9 hazardous chemical vehicles with dust-proof and moisture-proof measures. Comply with ADR/RID, IMDG Code and IATA-DGR regulations for Class 9 miscellaneous hazardous substances; provide MSDS/COA for customs clearance; no mixed transport with other hazardous chemicals.

SECTION 15: Regulatory Information

15.1 National/International Regulations

- China: Hazardous Chemicals Safety Management Regulation (Class 9 Miscellaneous Hazardous Substance); Industrial Chemical Product Standard; Environmental Protection Law; **Strictly prohibited for pharmaceutical use** (National Medical Products Administration regulation).
- EU: REACH (Annex XVII compliant, not in SVHC Candidate List); CLP (GHS Classification - Warning); ADR/RID Class 9 Transport Regulations; **Banned for human medicinal use** (EMA regulation).
- US: TSCA (listed on the TSCA Inventory); DOT Class 9 Miscellaneous Hazardous Substance; OSHA Hazard Communication Standard (29 CFR 1910.1200); **Banned for over-the-counter drug use** (FDA regulation).
- International: ISO 9001 (Quality); ISO 14001 (Environment); WHO - Banned for pharmaceutical use due to organ damage risk.

15.2 Additional Regulatory Requirements Provide English MSDS/COA for customs clearance; mark **Class 9 Miscellaneous Hazardous Substance, FOR ORGANIC SYNTHESIS ONLY, NOT FOR MEDICAL/FOOD/Cosmetic USE** on all product documents; comply with dust emission standards for solid raw material processing.

SECTION 16: Other Information

- Further Information: This MSDS complies with GB/T 16483, GB/T 17519 and GHS Rev.9 standards, and is for professional use only by trained personnel (production, storage, transport and disposal). Key characteristic: **High-purity Phenacetin, Class 9 miscellaneous hazardous substance, harmful if swallowed, serious eye irritation, potential kidney/blood organ damage with prolonged exposure, for organic synthesis/laboratory use only.**
- Revision Date: 22 FEB 2026
- Disclaimer: The supplier is not liable for any damage, injury or environmental pollution caused by improper use, storage, transport or disposal of this product beyond the scope of the specified standards and national/international regulations. All operations must be conducted by trained professional personnel with strict compliance with relevant safety and industrial regulations. **The user assumes full responsibility for any unauthorized use (e.g., pharmaceutical/food use) of this product.**