

N-Acetylcysteine (NAC chemical, N-Acetyl-L-Cysteine) SDS | MSDS

1.PRODUCT AND COMPANY IDENTIFICATION

Product identifier

- **Product Name:** N-Acetylcysteine (NAC chemical, N-Acetyl-L-Cysteine)
- **Catalog Number:** S1623
- **CAS Number:** 616-91-1
- **IUPAC Name:** N-acetyl-L-cysteine

Relevant identified uses and uses advised against

- **Identified uses:** For research and development use only; laboratory chemicals; manufacture of substances.
- **Uses advised against:** Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

- **Company :** Selleck Chemicals
- **TollFree :** +1 877 796-6397
- **Tel :** +1 832 582-8158
- **Fax :** +1 832 582-8590

Emergency telephone number

- **Emergency phone #:** +1 832 582-8158

2. HAZARDS IDENTIFICATION

Classification:

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200):

- Eye irritation: Category 2A

Label Elements:

Pictogram:



Signal word: Warning

Hazard statements:

- H319: Causes serious eye irritation.

Precautionary statements:

- Prevention:

- P264: Wash skin thoroughly after handling.
- P280: Wear eye protection/ face protection.

- Response:

- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313: If eye irritation persists: Get medical advice/ attention.

Other hazards:

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

CAS-No.: 616-91-1

Components:

- **Chemical name:** N-acetyl-L-cysteine
- **CAS No.:** 616-91-1
- **Concentration (% w/w):** ≥ 90 - ≤ 100
- **Note:** Actual concentration is withheld as a trade secret.

4. FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance.

If inhaled: After inhalation, move to fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact: After eye contact, rinse out with plenty of water. Call in an ophthalmologist. Remove contact lenses.

If swallowed: After swallowing, immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Protection of first-aiders: For personal protection see section 8.

Notes to physician: N/A.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water, Foam, Carbon dioxide (CO₂), Dry powder.

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during firefighting: Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products: Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Specific extinguishing methods: N/A.

Further information: Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- **Advice for non-emergency personnel:** Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
- **Advice for emergency responders:** For personal protection see section 8.

Environmental precautions: Do not let product enter drains.

Methods and materials for containment and cleaning up: Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

7. HANDLING AND STORAGE

Precautions for safe handling: For precautions see section 2.

Conditions for safe storage: Keep container tightly closed and dry.

Storage class: 13, Non Combustible powder

Recommended storage temperature: 36 - 46 °F / 2 - 8 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: Contains no substances with occupational exposure limit values.

Engineering measures: N/A.

Personal protective equipment:

- **Respiratory protection:** Required when dusts are generated. Recommended Filter type: Filter type P2 (based on DIN EN 143, DIN 14387).
- **Hand protection:** Nitrile rubber gloves. Full contact and splash contact: 0.11 mm thickness, breakthrough time 480 min (e.g., KCL 741 Dermatril L).
- **Eye protection:** Safety glasses tested and approved under government standards such as NIOSH (US) or EN 166 (EU).
- **Skin and body protection:** Protective clothing.
- **Hygiene measures:** Change contaminated clothing. Wash hands after working with substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** powder
- **Color:** white
- **Odor:** weakly of acetic acid
- **Odor Threshold:** N/A
- **pH:** N/A
- **Melting point/range:** 223 - 226 °F / 106 - 108 °C
- **Boiling point/boiling range:** 291.0 - 293.5 °F / 143.9 - 145.3 °C (1,013.25 hPa)
- **Flash point:** Not applicable
- **Evaporation rate:** N/A
- **Flammability (powder, gas):** The product is not flammable. (Method: Test N.1: Test method for readily combustible powder)
- **Vapor pressure:** < 0.1 hPa (68 °F / 20 °C)
- **Relative density:** 1.48 (68 °F / 20 °C)
- **Density:** 1.48 g/cm³ (68 °F / 20 °C)
- **Water solubility:** 179.5 g/l (68 °F / 20 °C)
- **Partition coefficient: n-octanol/water:** log Pow: -0.6 (73 °F / 23 °C); Bioaccumulation is not expected.
- **Autoignition temperature:** N/A
- **Decomposition temperature:** N/A
- **Viscosity:** N/A
- **Explosive properties:** N/A
- **Oxidizing properties:** none
- **Self-heating substances:** Not classified as self-heating (Method: UN Manual of Tests and Criteria: Test N.4).
- **Molecular weight:** 163.19 g/mol

10. STABILITY AND REACTIVITY

Reactivity: For flammable organic substances and mixtures, a dust explosion potential may generally be assumed in correspondingly fine distribution when whirled up.

Chemical stability: The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions: Violent reactions possible with strong oxidizing agents.

Conditions to avoid: No information available.

Incompatible materials: N/A.

Hazardous decomposition products: In the event of fire, see section 5.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

- LD50 Oral - Rat - 5,050 mg/kg. Symptoms: Nausea, Vomiting, Gastrointestinal discomfort.

- Inhalation/Dermal: N/A.

Skin corrosion/irritation:

- Skin - reconstructed human epidermis (RhE): No skin irritation - 42 min (OECD 439).

Serious eye damage/eye irritation:

- Remarks: Causes serious eye irritation (ECHA).

Respiratory or skin sensitization: N/A.

Germ cell mutagenicity: Negative (Ames test with *Escherichia coli*/*Salmonella typhimurium*).

Carcinogenicity: No component present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC, NTP, or OSHA.

Reproductive toxicity: N/A.

STOT - single/repeated exposure: N/A.

Aspiration hazard: N/A.

Additional Information: RTECS: HA1660000. Symptoms include bronchospasm, nausea, vomiting, stomatitis, and nasal discharge. Hazardous properties are unlikely when handled appropriately. Therapeutically used substance.

12. ECOLOGICAL INFORMATION

Ecotoxicity (acetylcysteine):

- **Toxicity to daphnia:** EC50 (*Daphnia magna*): > 100 mg/l (48 h; static).

- **Toxicity to algae:** ErC50 (*Pseudokirchneriella subcapitata*): > 100 mg/l (72 h; static); NOEC: > 100 mg/l (72 h).

Persistence and degradability:

- **Biodegradability:** aerobic; activated sludge. Result: 76% - Readily biodegradable (28 d; OECD 301F).

Bioaccumulative potential:

- log Pow: -0.6 (73 °F / 23 °C). Bioaccumulation is not expected.

Mobility in soil: N/A.

Other adverse effects: Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. TRANSPORT INFORMATION

IATA-DGR: Not regulated as a dangerous good.

IMDG-Code: Not regulated as a dangerous good.

49 CFR Road: Not regulated as a dangerous good.

Transport in bulk according to IMO instruments: Not applicable for product as supplied.

Poison Inhalation Hazard: No.

Special precautions for user: Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards

No SARA Hazards

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

16. OTHER INFORMATION

Revision Date: 2026/07/29

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.