

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 141d
SRM Name: Acetanilide $\text{CH}_3\text{CONHC}_6\text{H}_5$
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended primarily for use in validating microchemical procedures for the determination of carbon, hydrogen, and nitrogen in organic matter. SRM 141d is supplied in crystalline form in a 2 g unit.

Company Information

National Institute of Standards and Technology
 Standard Reference Materials Program
 100 Bureau Drive, Stop 2300
 Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
 FAX: 301-948-3730
 E-mail: SRMMSDS@nist.gov
 Website: <http://www.nist.gov/srm>

Emergency Telephone ChemTrec:
 1-800-424-9300 (North America)
 +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Acute Toxicity, Oral, Category 4

Label Elements

Symbol



Signal Word

Warning

Hazard Statement(s)

H302 Harmful if swallowed.

Precautionary Statement(s)

Prevention

P260 Do not breathe dust.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink, or smoke when using this product
 P280 Wear protective gloves, protective clothing, and eye protection.

Response

P301+P312 If swallowed: Immediately call a doctor if you feel unwell.
 P330 Rinse mouth.

Dispose

P501 Dispose of contents and container according to local regulations.

Hazards Not Otherwise Classified: None.

Ingredients(s) with Unknown Acute Toxicity: None.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Acetanilide

Other Designations: Acetanilide (acetic acid anilide; acetanil; N-phenylacetamide)

| Hazardous Component(s) | CAS Number | EC Number (EINECS) | Nominal Mass Concentration (%) |
|------------------------|------------|-----------------------|-----------------------------------|
| Acetanilide | 103-84-4 | 203-150-7 | 100 |

4. FIRST AID MEASURES

Description of First Aid Measures

Inhalation: If adverse effects occur, remove to well-ventilated (uncontaminated) area. If breathing is difficult, qualified personnel may administer oxygen. If not breathing, qualified personnel should give artificial respiration. Seek immediate medical attention.

Skin Contact: Rinse affected skin with water for at least 15 minutes, then wash thoroughly with soap or mild detergent and water. If skin irritation persists, seek medical aid and bring the container or label.

Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion: If a large amount is swallowed, get medical attention.

Most Important Symptoms/Effects, Acute and Delayed: Cyanosis of lips and nose, chest pain.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Slight fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media

Suitable: Regular dry chemical, carbon dioxide, water, or regular foam.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: When heated to decomposition, emits highly toxic fumes.

Special Protective Equipment and Precautions for Fire-Fighters: Move container from fire area if it can be done without personal risk. Avoid inhalation of material or combustion by-products. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 2 Fire = 1 Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection". Keep out of water supplies and sewers.

Methods and Materials for Containment and Clean up: Collect spilled material in an appropriate container for disposal. Keep out of water supplies and sewers.

7. HANDLING AND STORAGE

Safe Handling Precautions: See Section 8, "Exposure Controls and Personal Protection".

Storage and Incompatible Materials: Store in accordance with all current regulations. Keep separated from incompatible substances (see Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No established occupational exposure limits.

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Splash resistant safety goggles and emergency eyewash are recommended.

Skin and Body Protection: Chemical resistant clothing and gloves are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

| Properties | Acetanilide 100 % |
|--|--|
| Molar Mass (g/mol) | 135.17 |
| Molecular Formula | C ₈ H ₉ NO |
| Appearance (physical state, color, etc.) | lustrous white crystalline powder |
| Odor | odorless |
| Odor threshold | not available |
| pH | not available |
| Evaporation rate (butyl acetate = 1) | not available |
| Melting point/freezing point | 113 °C (235.4 °F) |
| Relative Density as Specific Gravity (water = 1) | 1.2105 |
| Density | not available |
| Vapor Pressure | 1 mmHg at 114 °C |
| Vapor Density (air = 1) | 4.7 |
| Viscosity | not applicable |
| Solubilities | soluble in water 0.5 %; soluble in acetone, alcohol, ether, benzene, chloroform, glycerol, dioxane; slightly soluble in petroleum ether. |
| Partition coefficient (n-octanol/water) | not available |
| Thermal Stability Properties | |
| Autoignition Temperature | 540 °C (1004 °F) |
| Thermal Decomposition | not available |
| Initial boiling point and boiling range | 306 °C (582 °F) |
| Explosive Limits, LEL (Volume %) | not available |
| Explosive Limits, UEL (Volume %) | not available |
| Flash Point (Open Cup) | 169 °C (336.2 °F) |
| Flammability (solid, gas) | not applicable |

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: Stable Unstable

Possible Hazardous Reactions: Not applicable.

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible material. Keep out of water supplies and sewers.

Incompatible Materials: Acids, bases, combustible materials, metal salts.

Hazardous Decomposition: Oxides of nitrogen.

Hazardous Polymerization: Will Occur Will Not Occur

15. REGULATORY INFORMATION

U.S. Regulations

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: Yes

CHRONIC HEALTH: No

FIRE: No

REACTIVE: No

PRESSURE: No

State Regulations: California Proposition 65: Not listed.

U.S. TSCA Inventory: Acetanilide is listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations: WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 19 May 2014

Sources: ChemADVISOR, Inc., MSDS *Acetanilide*, 11 September 2013.

Hazardous Substances Data Bank (HSDB), National Library of Medicine's TOXNET system, *Acetanilide* CAS No. 103-84-4; available at <http://toxnet.nlm.nih.gov/> (accessed May 2014).

Key of Acronyms:

| | | | |
|--------|---|-------|--|
| ACGIH | American Conference of Governmental Industrial Hygienists | NTP | National Toxicology Program |
| CAS | Chemical Abstracts Service | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL | Permissible Exposure Limit |
| CFR | Code of Federal Regulations | RCRA | Resource Conservation and Recovery Act |
| DOT | Department of Transportation | REL | Recommended Exposure Limit |
| EINECS | European Inventory of Existing Commercial Chemical Substances | RQ | Reportable Quantity |
| EPCRA | Emergency Planning and Community Right-to-Know Act | RTECS | Registry of Toxic Effects of Chemical Substances |
| IARC | International Agency for Research on Cancer | SARA | Superfund Amendments and Reauthorization Act |
| IATA | International Air Transportation Agency | SCBA | Self-Contained Breathing Apparatus |
| IDLH | Immediately Dangerous to Life and Health | SRM | Standard Reference Material |
| LC50 | Lethal Concentration | STEL | Short Term Exposure Limit |
| LD50 | Median Lethal Dose or Lethal Dose, 50 % | TLV | Threshold Limit Value |
| LEL | Lower Explosive Limit | TPQ | Threshold Planning Quantity |
| MSDS | Material Safety Data Sheet | TSCA | Toxic Substances Control Act |
| NFPA | National Fire Protection Association | TWA | Time Weighted Average |
| NIOSH | National Institute for Occupational Safety and Health | UEL | Upper Explosive Limit |
| NIST | National Institute of Standards and Technology | WHMIS | Workplace Hazardous Materials Information System |
| n.o.s. | Not Otherwise Specified | | |

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at <http://www.nist.gov/srm>.