

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 141e
SRM Name: Acetanilide
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. A unit of SRM 141e is supplied in crystalline form in a 2 g unit.

Company Information

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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

Descriptive Properties

Molar Mass (g/mol)
Molecular Formula
Appearance (physical state, color, etc.)
Odor
Odor threshold
pH
Evaporation rate (butyl acetate = 1)
Melting point/freezing point
Relative Density as Specific Gravity (water = 1)
Density
Vapor Pressure
Vapor Density (air = 1)
Viscosity
Solubilities

Acetanilide 100 % of this SRM

135.17
C₈H₉NO
lustrous white crystalline powder
odorless
not available
not available
not available
113 °C (235.4 °F)
1.2105
not available
1 mmHg at 114 °C
4.7
not applicable
soluble in water 0.5 %;
soluble in acetone, alcohol,
ether, benzene, chloroform,
glycerol, dioxane;
slightly soluble in petroleum
ether.
not available

Partition coefficient (n-octanol/water)

540 °C (1004 °F)
not available
306 °C (583 °F)
not available
not available
169 °C (336.2 °F)
not applicable

Thermal Stability Properties

Autoignition Temperature
Thermal Decomposition
Initial boiling point and boiling range
Explosive Limits, LEL (Volume %)
Explosive Limits, UEL (Volume %)
Flash Point (Closed Cup)
Flammability (solid, gas)

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, and metal salts.

Hazardous Decomposition: Oxides of nitrogen.

Hazardous Polymerization: Will Occur Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: Inhalation Skin Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Cyanosis.

Potential Health Effects (Acute, Chronic, and Delayed)

Ingestion: Acute exposure to a large dose of acetanilide may cause methemoglobin resulting in cyanosis of the lips, nose, and earlobes. Accompanying symptoms including weakness, dizziness, severe headache, ataxia rapid shallow respiration, drowsiness, nausea, vomiting, confusion, lethargy, and stupor. Chronic daily doses exceeding one gram may result in methemoglobin and hemolytic anemia.

Skin Contact: Acute and chronic exposure to acetanilide may result in irritation and contact dermatitis.

Eye Contact: Acute and chronic exposure to acetanilide may cause irritation and conjunctivitis.

Inhalation: Acute exposure may cause the same effects as listed for ingestion. Chronic exposure may result in chest pain, giddiness, epigastric pain, and highly-colored urine. Symptoms may be delayed as a result of delayed absorption.

Numerical Measures of Toxicity

Acute Toxicity: Category 4 for oral

Rat, Oral, LD50: 800 mg/kg

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ **Yes** _____ **X** **No**

Acetanilide is not listed by NTP, IARC or OSHA as a carcinogen.

Tumorigenic: Not classified; no data available.

Mutagenic: Not classified.

Mouse: 50 mg/kg

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data

Fish, Bluegill (*Lepomis macrochirus*), LC50: 100 mg/L (96 h) static

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

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: 08 July 2016

Sources: ChemADVISOR, Inc., SDS *Acetanilide*, 09 December 2015.

Vendor SDS, Sigma-Aldrich, *Acetanilide*, 20 March 2015.

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 July 2016).

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 Transport Association	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>.