

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 148
SRM Name: Nicotinic acid
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) consists of highly purified nicotinic acid and is intended for use in checking microdeterminations of carbon, hydrogen, and nitrogen in organic matter. This SRM is supplied in a unit consisting of 2 g of powdered material in a crystalline form.

Company Information

National Institute of Standards and Technology
 Standard Reference Materials Program
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 1-800-424-9300 (North America)
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2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Eye Damage/Irritation Category 2B

Label Elements

Symbol

No Symbol/No Pictogram

Signal Word

WARNING

Hazard Statement(s):

H320 Causes eye irritation.

Precautionary Statement(s):

P264 Wash hands thoroughly after handling.

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 attention.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Nicotinic acid

Other Designations: Niacin; 3-pyridinecarboxylic acid; 3-carboxypyridine; nicacid; beta-pyridinecarboxylic acid.

Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the NIST Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Nicotinic acid	59-67-6	200-441-0	100

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water for at least 15 minutes. Thoroughly clean and dry contaminated clothing before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

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

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

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

5. FIRE FIGHTING MEASURES

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

Extinguishing Media:

Suitable: Use extinguishing agents appropriate for surrounding fire.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. 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 = 0

Fire = 0

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".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Avoid generating dust.

7. HANDLING AND STORAGE

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

Storage: Store the unused portion of this material in the original tightly-capped bottle in a dry environment at normal laboratory temperatures. Store and handling in accordance with all current regulations and standards. Keep separated from incompatible substances (see Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No occupational exposure limits have been established for nicotinic acid. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. OSHA Particulates Not Otherwise Regulated (PNOR) exposure limits apply.

OSHA (PEL): 15 mg/m³ (TWA, total dust)
5 mg/m³ (TWA, respirable fraction)

NIOSH (REL): 15 mg/m³ (TWA, total dust)
5 mg/m³ (TWA, respirable fraction)

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

Personal Protection: 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/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:	Nicotinic acid
Appearance (physical state, color, etc.):	colorless, crystalline powder
Molecular Formula:	C ₆ H ₅ NO ₂
Molar Mass (g/mol):	123.11
Odor:	odorless
Odor threshold:	not available
pH (solution):	2.7 (saturated aqueous solution)
Evaporation rate:	not applicable
Melting point/freezing point (°C):	236 to 239 (456.8 to 462.2 °F)
Relative Density (g/mL):	1.473 (water = 1)
Vapor Pressure (mmHg):	not available
Vapor Density (air = 1):	not available
Viscosity (cP):	not applicable
Solubility(ies):	water: soluble; alcohol: soluble; insoluble in lipid solvents
Partition coefficient (n-octanol/water):	not available
Particle Size:	not available
Thermal Stability Properties:	
Autoignition Temperature (°C):	580 (1076 °F)
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not applicable
Explosive Limits, LEL (Volume %):	not applicable
Explosive Limits, UEL (Volume %):	not applicable
Flash Point (°C):	not applicable
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: Oxidizers.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Ammonia, pyridine, various organic fragments.

Hazardous Polymerization: Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Exposure may cause eye irritation.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Acute: no data available; chronic: itching, flushing, burning or tingling sensation of the skin; gastrointestinal distress.

Skin Contact: Acute: prolonged contact may flushing of the skin; chronic: vasodilation or allergic effects.

Eye Contact: Acute: animal studies conducted on rabbits produced moderate irritation that was fully reversible within seven days; chronic: no data available.

Ingestion: Acute: high doses may cause vasodilation, symptoms include flushing, itching, burning and tingling of the face and upper trunk and pruritus. Doses upward of 30 g have caused gastric ulcers, diarrhea, nausea and vomiting, abnormal liver function, severe pruritus, skin rash, hyperglycemia, hypotension. Chronic: repeated high doses have caused hyperpigmentation of the skin, dry skin, hyperglycemia, hyperuricemia and kidney damage, liver impairment with jaundice, gastrointestinal effects, and changes in vision.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified.

Rat, Oral LD50: 7 g/kg

Rat, Dermal LD50: >2000 mg/kg

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Eye Irritation: Classified: Category 2B.

Rabbit, Eye: 4.67 mean cumulative score (24 h exposure) (reversible within 7 days)

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen Yes X No

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

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 classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Fish: Brown trout (*Salmo trutta*) LC50: 520 mg/L (96 h)

Invertebrate: Water flea (*Daphnia magna*) EC50: 77 mg/L (48 d)

Persistence and Degradability: No data available.

Bioaccumulative Potential: No bioaccumulation.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste 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: No.

CHRONIC HEALTH: No.

FIRE: No.

REACTIVE: No.

PRESSURE: No.

State Regulations:

California Proposition 65: Not listed.

U.S. TSCA Inventory: Listed.

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

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 30 June 2014

Sources: ChemADVISOR, Inc., MSDS *Nicotinic acid*, 21 March 2014.

European Chemical Agency, Registered substances, *Nicotinic acid*, CAS No.59-67-6, available at <http://echa.europa.eu/information-on-chemicals> (accessed Jun 2014).

Hazardous Substances Data Bank, National Library of Medicine, *Nicotinic acid* CAS No. 59-67-6, available at <http://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm> (accessed Jun 2014).

International Programme on Chemical Safety (IPCS), *Nicotinic acid*, CAS No. 59-67-6, available at <http://www.inchem.org/documents/sids/sids/59676.pdf> (accessed Jun 2014).

29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Jun 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NIOSH	National Institute for Occupational Safety and Health
ALI	Annual Limit on Intake	NIST	National Institute of Standards and Technology
CAS	Chemical Abstracts Service	NRC	Nuclear Regulatory Commission
CEN	European Committee for Standardization	NTP	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	PEL	Permissible Exposure Limit
CPSU	Coal Mine Dust Personal Sample Unit	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
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
ISO	International Organization for Standardization	STEL	Short Term Exposure Limit
LC50	Lethal Concentration, 50 %	TDLo	Toxic Dose Low
LD50	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
MSHA	Mine Safety and Health Administration	UEL	Upper Explosive Limit
		WHMIS	Workplace Hazardous Materials Information System

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 certified 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>.