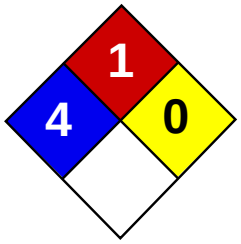

Health	3
Fire	1
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
L-Nicotine MSDS

Section 1: Chemical Product and Company Identification

Product Name: L-Nicotine

Catalog Codes: SLN1864

CAS#: 54-11-5

RTECS: QS5250000

TSCA: TSCA 8(b) inventory: L-Nicotine

CI#: Not available.

Synonym: -(-)Nicotine; (-)-3-(Methyl-2-pyrrolidyl)pyridine; (S)-3-(1-Methyl-2-pyrrolidinyl)pyridine; (S)-Nicotine; 1-Methyl-2-(3pyridyl)pyrrolidine; 3-(N-Methylpyrrolidino)pyridine; beta-Pyridyl-alpha-N-methylpyrrolidine; S-(-)Nicotine

Chemical Name: Nicotine

Chemical Formula: C10-H14-N2

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
{L-}Nicotine	54-11-5	100

Toxicological Data on Ingredients: L-Nicotine: ORAL (LD50): Acute: 3.34 mg/kg [Mouse]. 50 mg/kg [Rat]. DERMAL (LD50): Acute: 50 mg/kg [Rabbit]. 140 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to the nervous system, cardiovascular system, upper respiratory tract, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 244°C (471.2°F)

Flash Points: CLOSED CUP: 95°C (203°F). OPEN CUP: 101°C (213.8°F).

Flammable Limits: LOWER: 0.7% UPPER: 4%

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:

Poisonous liquid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.5 STEL: 1.5 (mg/m3) [Canada] SKIN TWA: 0.5 (mg/m3) from OSHA (PEL) [United States] SKIN TWA: 0.5 (mg/m3) from NIOSH [United States] SKIN TWA: 0.5 STEL: 1.5 (mg/m3) [United Kingdom (UK)] SKIN TWA: 0.5 (mg/m3) from ACGIH (TLV) [United States] SKINConsult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Oily liquid.)

Odor: Fish. (Slight.)

Taste: Acrid. Burning.

Molecular Weight: 162.24 g/mole

Color: Yellowish-brown. Colorless to light yellow.

pH (1% soln/water): Not available.

Boiling Point: 247°C (476.6°F) @ 760 mm Hg

Melting Point: -79°C (-110.2°F)

Critical Temperature: Not available.

Specific Gravity: 1.0097 (Water = 1)

Vapor Pressure: Not available.

Vapor Density: 5.61 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 1.2

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:
Easily soluble in diethyl ether. Soluble in cold water. Miscible with water below 60 deg. C. Very soluble in alcohol, chloroform, petroleum ether, kerosene oils.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks), incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals:
Acute oral toxicity (LD50): 3.34 mg/kg [Mouse]. Acute dermal toxicity (LD50): 50 mg/kg [Rabbit].

Chronic Effects on Humans:
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. Causes damage to the following organs: the nervous system, cardiovascular system, upper respiratory tract, central nervous system (CNS).

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Human: passes through the placenta, excreted in maternal milk. May cause adverse reproductive effects and birth defects (teratogenic)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: It can cause skin irritation and rash. It may cause dermatitis. It is well absorbed by dermal exposure route. May be fatal if absorbed through skin. Systemic effects similar to that of ingestion can occur from nicotine poisoning. Eyes: It can cause eye irritation. Severe pain, lacrimation, conjunctival reaction, corneal infiltration, partial opacification of cornea. Inhalation: It is well absorbed by inhalation exposure route. Inhalation can produce systemic effects similar to that of ingestion. Ingestion: May be fatal if swallowed. It can cause gastrointestinal tract irritation/disturbances with nausea, vomiting, diarrhea, stomach pain, burning sensation of the mouth, throat, esophagus, and stomach, loss of appetite. Metabolic acidosis and hypokalemia can develop if there is severe diarrha. It acts on the central nervous system and other parts of the nervous system such as the adrenal medulla, autonomic ganglia, and neuromuscular junctions with initial stimulation followed by depression. Early signs of toxicity from small doses include nausea, vomiting, headache, dizziness, tachydardia, hypertension, tachypnea, hyperpnea, sweating, and salivation. High exposure can cause dizziness, headache, tremors, anxiety, restlessness, seizures, hypotonia, decreased deep tendon reflexes progressing to paralysis, fasciculations,

convulsions, weakness, incoordination, hallucinations, confusion,coma. Hypertension, tachycardia, and tachypnea followed by hypotension, bradycardia, and dyspnea, bradypnea can occur. Tachypnea is one of the principle signs nicotine posioning. Respiratory failure may also occur. Other symptoms can include weak, rapid, and irregular pulse. Vasoconstriction, atrial fibrillation, and sinoatrial block, and ventricular fibrillation have also all been reported. Death is usually from respiratory depression secondary to CNS depression and peripheral blockade of respiratory muscles. It may also

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Nicotine UNNA: 1654 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: L-Nicotine California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: L-Nicotine Connecticut hazardous material survey.: L-Nicotine Illinois toxic substances disclosure to employee act: L-Nicotine Illinois chemical safety act: L-Nicotine New York release reporting list: L-Nicotine Rhode Island RTK hazardous substances: L-Nicotine Pennsylvania RTK: L-Nicotine

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R25- Toxic if swallowed. R27- Very toxic in contact with skin. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 1

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 4

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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