MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	**4-Methyl Piperidine**
CHEMICAL NAME/CLASS/SYNONYMS:	γ-Pipecoline, 4-Pipecoline
PRODUCT NUMBER:	4-METHYL PIPERIDINE
U.N. NUMBER:	2733
U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK:	3
MANUFACTURER'S NAME:	**NuGeneration Technologies, LLC**
ADDRESS:	1155 Park Avenue, Emeryville, CA 94608 USA
EMERGENCY PHONE:	(800) 424-9300 (**CHEMTREC**)
BUSINESS PHONE:	(707) 820-4080 (Product Information)
DATE OF PREPARATION:	August 30, 2010 - Rev 1
DATE OF LAST REVISION:	--

2. COMPOSITION and INFORMATION ON INGREDIENTS

Hazardous Ingredients:	CAS #	EC #	ICSC #	WT %	Hazard Symbol; Risk Phrases
4-Methyl Piperidine	626-58-4	210-954-1		>99%	HAZARD CLASSIFICATION: F RISK PHRASES: R11

Annex I Index No: 613-027-00-3

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard *JIS Z 7250: 2000*.

See Section 3 for full text of Risk Phrases and Safety Phrases

3. HAZARD IDENTIFICATION

EU LABELING AND CLASSIFICATION: This product meets the definition of the following hazard class as defined by the European Economic Community Guidelines.

EU CLASSIFICATION: F

EU RISK PHRASES: R 11 highly flammable.

EU SAFETY PHRASES: S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.

EMERGENCY OVERVIEW:
Danger!
Flammable liquid and vapor.
Harmful if absorbed through skin or if inhaled.
May cause eye and skin irritation. May cause respiratory and digestive tract irritation.
Target Organs: None.

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases

INHALATION: May cause respiratory tract irritation. Vapors may cause dizziness or suffocation.

CONTACT WITH SKIN or EYES: May cause eye irritation.

INGESTION: Harmful if swallowed. May cause damage to the digestive tract.

HEALTH EFFECTS OR RISKS FROM EXPOSURE:

ACUTE: Contact with skin or eyes may cause irritation. Inhalation will cause respiratory irritation.

CHRONIC: No Information found.

TARGET ORGANS: None.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	1
FLAMMABILITY HAZARD	(RED)	4
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate
3 = Serious **4** = Severe * = Chronic hazard

4. FIRST-AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

SKIN EXPOSURE: Wash affected areas thoroughly with soap and water. Immediate medical attention required.

EYE EXPOSURE: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Gently lift eyelids and flush continuously with water. Extensive irrigation with water is required (at least 30 minutes).

INHALATION: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

INGESTION: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin and respiratory disorders, as well as conditions involving the “Target Organs” (see Section 3, Hazard Identification) may be aggravated by prolonged overexposures to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: 7 C (45 F)

Flammability Rating: Flammable.

AUTOIGNITION TEMPERATURE: not available

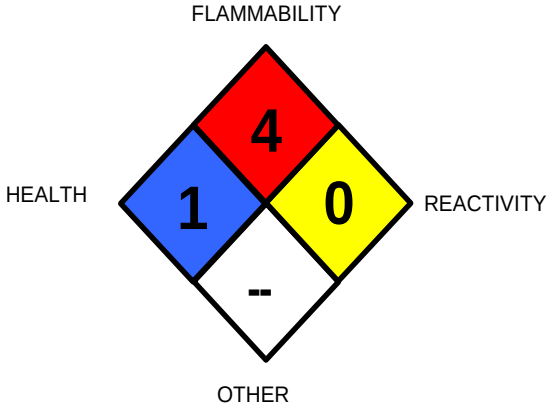
FLAMMABLE LIMITS (in air by volume, %): N/D LEL, N/D UEL

FIRE EXTINGUISHING MATERIALS: Use fire extinguishing materials appropriate for surrounding fire.

Water Spray: Yes	Carbon Dioxide: Yes
Foam: Yes	Dry Chemical: Yes
Halon: Yes	Other: Any "C" Class

UNUSUAL FIRE AND EXPLOSION HAZARDS: Above the flash point, explosive vapor-air mixtures may be formed.

NFPA RATING



SPECIAL FIRE-FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapor may explode if ignited in a confined area. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire. Containers may explode when heated.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by appropriately trained personnel using pre-planned procedures. Proper protective equipment should be used.

Remove all sources of ignition. Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate protective equipment as specified in section 8.

Spills Pick up and place in suitable container for reclamation or disposal, using a method that does not generate dust. U.S. Regulations (CERCLA) requires porting spills and releases o soil, water and air in excess of reportable quantities.
Prevent entry into sewers, basements or confined areas, dike if needed. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations; those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid contact with eyes, skin, and clothing. Empty drums should be completely drained (triple rinsed), properly bunged, and promptly returned to a drum reconditioner, or disposed of properly. Open containers slowly on a stable surface. Containers of this product must be properly labeled. Storage areas of this product should be clearly identified, well-illuminated, clear of obstruction and accessible only to trained and authorized personnel. Store containers in a cool, dry location away from direct sunlight at temperatures between 39ºF - 120ºF. Keep product from freezing. Keep container tightly closed when not in use. Observe all warnings and precautions listed for this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use a chemical fume hood or local exhaust ventilation, and process enclosure if necessary, to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

EXPOSURE LIMITS/GUIDELINES:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR									
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELs		NIOSH	AIHA WEELs		OTHER
		TWA ppm	STEL ppm	TWA ppm	STEL ppm	TWA ppm	STEL ppm	IDLH ppm	TWA ppm	STEL ppm	ppm
4-METHYL PIPERIDINE	626-58-4	NE	NE	NE	NE	NE	NE	NE	NE	NE	--

NE = Not Established. NIC = Notice of Intended Change See Section 16 for Definitions of Terms Used.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. Federal OSHA's Respiratory Protection Standard (1910.134-1998) or the regulations of various U.S. States, Canada, EU Member States, or those of Japan. Air-purifying respirators with dust/mist/fume filters are recommended if operations may produce mists or sprays from this product.

EYE PROTECTION: Safety goggles. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards. Maintain eye wash fountain and quick drench facilities in the work area.

HAND PROTECTION: Use chemically-resistant gloves when handling this product. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Use body protection appropriate for task (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

9. PHYSICAL and CHEMICAL PROPERTIES

BULK DENSITY: 6.99 lbs/gallon
SPECIFIC GRAVITY @ 20 °C: 0.8380 (water=1)
SOLUBILITY IN WATER: miscible
VAPOR PRESSURE, mmHg @ 20 °C (68 °F): 50
pH: N/A
ODOR: mild amine like
APPEARANCE and COLOR: Liquid / Clear to yellow
Molecular Formula: $C_6H_{13}N$

EVAPORATION RATE (n-BuAc=1): N/D
MELTING POINT: -4 ºC (25 ºF)
BOILING POINT: 124 ºC (255 ºF)
Vapor Density (Air=1): 3.0
Decomposition Temperature: N/D
Viscosity, dynamic: N/D
% Volatiles by volume @ 21ºC (70ºF): N/A
Molecular Weight: 99.18

10. STABILITY and REACTIVITY

STABILITY: Stable under normal conditions.

DECOMPOSITION PRODUCTS: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen gas.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizing agents, acids, carbon dioxide, acid anhydrides, acid chlorides.

HAZARDOUS POLYMERIZATION: Not know to occur.

CONDITIONS TO AVOID: Incompatible materials, ignition sources, excess heat, strong oxidants.

11. TOXICOLOGICAL INFORMATION

RTECS#: None listed
CAS# 626-58-4:
LD50/LC50:
Incompatible materials, ignition sources, excess heat, strong oxidants
Carcinogenicity:
CAS# 626-58-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.

12. ECOLOGICAL INFORMATION

Environmental fate and transport - No Information Available.
Environmental toxicity - No Information Available.

13. DISPOSAL CONSIDERATIONS

Waste disposal of substance:
Must be dumped or incinerated in accordance with local regulations. Incinerate or dispose of in a RCRA-licensed facility. Do not discharge into waterways or sewer systems without proper authorization.

Container disposal:
Empty containers with less than 1 inch of residue may be land filled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA: None Listed

14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

PROPER SHIPPING NAME: 4-Methyl Piperidine
HAZARD CLASS NUMBER: 3 [3 Flammable]
UN IDENTIFICATION NUMBER: 2733 PACKING GROUP: II
DOT LABEL(S) REQUIRED: 3 - Flammable

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 2004: --

MARINE POLLUTANT**:** This product is not designated as a marine pollutant by the Department of Transportation (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is considered as dangerous goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is considered by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, and are listed as follows:

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
4-METHYL PIPERIDINE	NO	No	NO

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.
U.S. CERCLA REPORTABLE QUANTITY (RQ): None
U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.
TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 626-58-4 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, Massachusetts.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product DOES NOT CONTAIN a chemical known to the state of California to cause developmental reproductive toxicity.
California No Significant Risk Level: None of the chemicals in this product are listed.

WGK (Water Danger/Protection)
CAS# 626-58-4: 1

CANADIAN REGULATIONS:
CANADIAN DSL/NDSL INVENTORY STATUS: CAS# 626-58-4 is listed on Canada's DSL List.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: B2

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

EU CLASSIFICATION: T, F, C

EU RISK PHRASES: R 11 Highly flammable. R 34 Causes burns.

EU SAFETY PHRASES: S 16 Keep away from sources of ignition - No smoking.
S 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
S 27 Take off immediately all contaminated clothing.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

EUROPEAN ECONOMIC COMMUNITY INFORMATION FOR CONSTITUENTS: The following information is available for the components of this product. **4-METHYL PIPERIDINE:** EU EINECS/ELINCS NUMBER: 210-954-1

AUSTRALIAN INFORMATION FOR PRODUCT:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: The components of this product are listed on the AICS.
HAZARDOUS SUBSTANCES INFORMATION SYSTEM: 4-METHYL PIPERIDINE is listed by the Hazardous Substances Information System as a Hazardous Substance.
STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS: Not applicable.
LABELING AND CLASSIFICATION: The product is regulated, based a review of the regulation [NOHSC: 10005 (1994-Current)]:

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.
JAPANESE ENCS INVENTORY: The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.
POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

INTERNATIONAL CHEMICAL INVENTORIES:
Listing of the components on individual country Chemical Inventories is as follows:
4-METHYL PIPERIDINE is listed on the following inventories:
Asia-Pac: Listed
Australian Inventory of Chemical Substances (AICS): Listed
Korean Existing Chemicals List (ECL): Listed
Japanese Existing National Inventory of Chemical Substances (ENCS): Listed
Philippines Inventory if Chemicals and Chemical Substances (PICCS): Listed
Swiss Giftliste List of Toxic Substances: Listed
U.S. TSCA: Listed

16. OTHER INFORMATION

PREPARED BY: Donato Polignone
DATE: August 30, 2010

MSDS Authoring Services
SUPERSEDES: New

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End of MSDS