

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**MATHESON TRI-GAS, INC.**  
**150 Allen Road Suite 302**  
**Basking Ridge, New Jersey 07920**  
**Information: 1-800-416-2505**

**Emergency Contact:**  
**CHEMTREC 1-800-424-9300**  
**Calls Originating Outside the US:**  
**703-527-3887 (Collect Calls Accepted)**

**SUBSTANCE: PYRIDINE**

**TRADE NAMES/SYNONYMS:**

MTG MSDS 193; AZINE; AZABENZENE; RCRA U196; UN 1282; C5H5N; MAT19990; RTECS UR8400000

**CHEMICAL FAMILY:** pyridinyl

**CREATION DATE:** Jan 24 1989

**REVISION DATE:** Dec 11 2008

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## 2. COMPOSITION, INFORMATION ON INGREDIENTS

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**COMPONENT:** PYRIDINE

**CAS NUMBER:** 110-86-1

**PERCENTAGE:** 100

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## 3. HAZARDS IDENTIFICATION

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**NFPA RATINGS (SCALE 0-4):** HEALTH=3 FIRE=3 REACTIVITY=0



**EMERGENCY OVERVIEW:**

**PHYSICAL DESCRIPTION:** liquid

**MAJOR HEALTH HAZARDS:** skin irritation, eye irritation, central nervous system depression

**PHYSICAL HAZARDS:** Flammable liquid and vapor. Vapor may cause flash fire.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**SHORT TERM EXPOSURE:** irritation, headache, drowsiness, dizziness, loss of coordination

**LONG TERM EXPOSURE:** nausea, vomiting, diarrhea, stomach pain, loss of appetite, dizziness, sleep disturbances, emotional disturbances, loss of coordination, nerve damage

**SKIN CONTACT:**

**SHORT TERM EXPOSURE:** irritation (possibly severe), allergic reactions, sensitivity to light

**LONG TERM EXPOSURE:** irritation, allergic reactions

**EYE CONTACT:**

**SHORT TERM EXPOSURE:** irritation, eye damage

**LONG TERM EXPOSURE:** irritation

**INGESTION:**

**SHORT TERM EXPOSURE:** nausea, vomiting, diarrhea, disorientation, emotional disturbances, lung congestion

**LONG TERM EXPOSURE:** same as effects reported in long term inhalation, heart damage, kidney damage, liver damage

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## 4. FIRST AID MEASURES

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**SKIN CONTACT:** Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

**EYE CONTACT:** Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**INGESTION:** Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

**NOTE TO PHYSICIAN:** For inhalation, consider oxygen. For ingestion, consider gastric lavage and activated charcoal slurry.

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## 5. FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Severe fire hazard. Vapor/air mixtures are explosive. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

**EXTINGUISHING MEDIA:** alcohol-resistant foam, carbon dioxide, regular dry chemical, water

Large fires: Use alcohol-resistant foam or flood with fine water spray.

**FIRE FIGHTING:** Move container from fire area if it can be done without risk. Dike for later disposal. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from

venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Water may be ineffective.

**FLASH POINT:** 68 F (20 C) (CC)

**LOWER FLAMMABLE LIMIT:** 1.8%

**UPPER FLAMMABLE LIMIT:** 12.4%

**AUTOIGNITION:** 900 F (482 C)

**FLAMMABILITY CLASS (OSHA):** IB

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## 6. ACCIDENTAL RELEASE MEASURES

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### **WATER RELEASE:**

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

### **OCCUPATIONAL RELEASE:**

Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Protect from physical damage. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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### **EXPOSURE LIMITS:**

#### **PYRIDINE:**

5 ppm (15 mg/m<sup>3</sup>) OSHA TWA

1 ppm ACGIH TWA

5 ppm (15 mg/m<sup>3</sup>) NIOSH recommended TWA 10 hour(s)

**VENTILATION:** Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**EYE PROTECTION:** Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear appropriate chemical resistant clothing.

**GLOVES:** Wear appropriate chemical resistant gloves.

**RESPIRATOR:** The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

**125 ppm**

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with organic vapor cartridge(s).

**250 ppm**

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.

Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s).

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

**1000 ppm**

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

**Escape -**

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** liquid

**ODOR:** Not available

**MOLECULAR WEIGHT:** 79.10

**MOLECULAR FORMULA:** C5-H5-N

**BOILING POINT:** 239 F (115 C)

**FREEZING POINT:** -44 F (-42 C)

**VAPOR PRESSURE:** 18 mmHg @ 20 C

**VAPOR DENSITY (air=1):** 2.7  
**SPECIFIC GRAVITY (water=1):** 0.9819  
**WATER SOLUBILITY:** soluble  
**PH:** 8.2 (0.2 M solution)  
**VOLATILITY:** Not available  
**ODOR THRESHOLD:** <1 ppm  
**EVAPORATION RATE:** Not available  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not available  
**SOLVENT SOLUBILITY:**  
**Soluble:** alcohol, ether, acetone, benzene, oils, ligroin, organic solvents

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:** Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

**INCOMPATIBILITIES:** acids, combustible materials, oxidizing materials, halogens, halo carbons

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: oxides of carbon, nitrogen

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXICOLOGICAL INFORMATION

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**PYRIDINE:**

**IRRITATION DATA:** 500 mg/24 hour(s) skin-rabbit mild

**TOXICITY DATA:** 10 gm/m<sup>3</sup> inhalation-mammal LC50; 1 gm/kg skin-guinea pig LD50; 1500 mg/kg oral-mouse LD50

**CARCINOGEN STATUS:** IARC: Human Inadequate Evidence, Animal Limited Evidence, Group 3;

ACGIH: A3 -Confirmed Animal Carcinogen

**LOCAL EFFECTS:**

Irritant: skin, eye

**ACUTE TOXICITY LEVEL:**

Toxic: inhalation, dermal absorption

Moderately Toxic: ingestion

**TARGET ORGANS:** central nervous system

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** central nervous system disorders, kidney disorders, liver disorders

**TUMORIGENIC DATA:** Available.

**MUTAGENIC DATA:** Available.

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## 12. ECOLOGICAL INFORMATION

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### **ECOTOXICITY DATA:**

**FISH TOXICITY:** 26000 ug/L 96 hour(s) LC50 (Mortality) Common, mirror, colored, carp (Cyprinus carpio)

**INVERTEBRATE TOXICITY:** 1430 mg/L 24 hour(s) EC100 (Abundance) Water flea (Daphnia magna)

**ALGAL TOXICITY:** 280000 ug/L 48 hour(s) (Population Growth) Green algae (Scenedesmus pannonicus)

**OTHER TOXICITY:** 10000 ug/L 96 hour(s) (Abnormality) Clawed toad (Xenopus laevis)

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## 13. DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations. Hazardous Waste Number(s): D038. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 5.0 mg/L. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U196.

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## 14. TRANSPORT INFORMATION

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### **U.S. DOT 49 CFR 172.101:**

**PROPER SHIPPING NAME:** Pyridine

**ID NUMBER:** UN1282

**HAZARD CLASS OR DIVISION:** 3

**PACKING GROUP:** II

**LABELING REQUIREMENTS:** 3



### **CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

**SHIPPING NAME:** Pyridine

**UN NUMBER:** UN1282

**CLASS:** 3

**PACKING GROUP/CATEGORY:** II

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## 15. REGULATORY INFORMATION

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### **U.S. REGULATIONS:**

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):**

**PYRIDINE:** 1000 LBS RQ

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B):** Not regulated.

**SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C):** Not regulated.

**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):**

ACUTE: Yes

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

**SARA TITLE III SECTION 313 (40 CFR 372.65):**  
**PYRIDINE**

**OSHA PROCESS SAFETY (29 CFR 1910.119):** Not regulated.

**STATE REGULATIONS:**

**California Proposition 65:**

Known to the state of California to cause the following:

**PYRIDINE**

Cancer (May 17, 2002)

**CANADIAN REGULATIONS:**

**WHMIS CLASSIFICATION:** Not determined.

**NATIONAL INVENTORY STATUS:**

**U.S. INVENTORY (TSCA):** Listed on inventory.

**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.

**CANADA INVENTORY (DSL/NDSL):** Not determined.

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**16. OTHER INFORMATION**

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Page 8 of 8

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