Material Safety Data Sheet
Pyridine-D5, 99 Atom % D

ACC# 97383

Section 1 - Chemical Product and Company Identification

MSDS Name: Pyridine-D5, 99 Atom % D
Catalog Numbers: AC166570000, AC166570050, AC166570100, AC166570250
Synonyms: Azabenzene-D; Azine-D.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7291-22-7	Pyridine-D5	99	230-720-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to light yellow liquid. Flash Point: 68 deg F.
Warning! Flammable liquid and vapor. Stench. May be harmful if absorbed through the skin. May be harmful if swallowed. May cause severe respiratory and digestive tract irritation with possible burns. May cause severe eye and skin irritation with possible burns. May cause central nervous system depression.
Target Organs: Kidneys, central nervous system, liver, bone marrow.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns.
Skin: May cause skin irritation. May be harmful if absorbed through the skin. Effects may be delayed. May cause smarting of the skin and first-degree burns on short exposure.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause effects similar to those for inhalation exposure. Effects may be delayed.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. Prolonged exposure may result in dizziness and general weakness.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. May cause liver and kidney damage.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
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.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: 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. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: 68e deg F (20.00 deg C)
Autoignition Temperature: 900 deg F (482.22 deg C)
Explosion Limits, Lower: 1.80
Upper: 12.40
NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Pyridine-D5	none listed	none listed	none listed

OSHA Vacated PELs: Pyridine-D5: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless - colorless to light yellow
Odor: strong odor - fish-like
pH: 8.5 (0.2 M solution)
Vapor Pressure: 18 mm Hg @20c
Vapor Density: 2.73 (Air=1)
Evaporation Rate: Not available.
Viscosity: 0.95 mPa s 20 C
Boiling Point: 115 deg C
Freezing/Melting Point:-44 deg C
Decomposition Temperature: Not available.
Solubility: Miscible in water. Volatile in steam.
Specific Gravity/Density:.9780
Molecular Formula:C5D5N
Molecular Weight:84.0767

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. When heated to decompostion cyanide fumes are released.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat, strong oxidants, electrical sparks, exposure to flame.
Incompatibilities with Other Materials: Acids; acid chlorides; oxidizing agents; chloroformates; bromine trifluoride; mixtures with formamide, iodine, and sulfur trioxide, chlorosulfonic acid, chromic acid, maleic anhydride, sulfuric acid, perchromates, and dinitrogen tetroxide
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 7291-22-7 unlisted.
LD50/LC50:
Not available.

Carcinogenicity:
CAS# 7291-22-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found.
Teratogenicity: No studies in mammals were found. Tests in the hydra did not suggest the material should be tested in mammals.
Reproductive Effects: No information found.
Mutagenicity: Pyridine's mutagenicity potential is equivocal. It was reported to be both positive and negative in Salmonella typhimurium strains. It was not mutagenic in tests for chromosome aberrations, but did give weak positive results in tests that detect sister chromatid exchanges.
Neurotoxicity: No information found.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 106mg/L; 96H; Flow-through No data available.
Environmental: Terrestrial: Should have very high mobility. It is adsorbed to acid clay to a moderate extent. Complete degradation in one soil occurred in less than 8 days. Aquatic: Should biodegrade after an acclimation period and can also be lost through volatilization. Atmospheric: Exists in the vapor phase based on a vapor pressure of 20.80 mm Hg and react slowly with photochemically produced hydroxy radicals with experimental half-lives of 32 and 16 days in clean and moderately polluted atmospheres, respectively. Will biodegrade and bioconcentrate.
Physical: No information available.
Other: For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	PYRIDINE	PYRIDINE
Hazard Class:	3	3
UN Number:	UN1282	UN1282
Packing Group:	II	II
Additional Info:		FLASHPOINT 17 C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7291-22-7 is not listed on the TSCA inventory. It is for research and development use only.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
Section 313 No chemicals are reportable under Section 313.
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# 7291-22-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XN F

Risk Phrases:

R 11 Highly flammable.
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28 After contact with skin, wash immediately with...
S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)

CAS# 7291-22-7: No information available.

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list. **Canada - WHMIS**

This product has a WHMIS classification of B2, D1A, D2B.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #4 Date: 3/18/2003