3. CHEMICAL AND PHYSICAL INFORMATION

3.1 CHEMICAL IDENTITY

Table 3-1 lists common synonyms, trade names, and other pertinent identification information for pyridine.

3.2 PHYSICAL AND CHEMICAL PROPERTIES

Table 3-2 lists important physical and chemical properties of pyridine.

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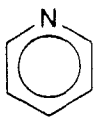
TABLE 3-1. Chemical Identity of Pyridine

Characteristic	Information	Reference
Chemical name	Pyridine	Weast 1985
Synonyms	Azabenzene; azine	Sax and Lewis 1987
Trade names	No data	
Chemical formula	C_5H_5N	Weast 1985
Chemical structure		
Identification numbers:		
CAS registry	110-86-1	Sax and Lewis 1987
NIOSH RTECS	UR 8400000	Sax 1984
EPA hazardous waste	F005	HSDB 1989
	U196	HSDB 1989
OHM/TADS	7216879	HSDB 1989
DOT/UN/NA/IMCO shipping	UN1282	HSDB 1989
	IMCO 3.0	HSDB 1989
	IMCO 6.1	HSDB 1989
HSDB	0118	HSDB 1989
NCI	C55301	NLM 1989

CAS = Chemical Abstracts Service; DOT/UN/NA/IMCO = Department of Transportation/United Nations/North America/International Maritime Dangerous Goods Code; EPA = Environmental Protection Agency; HSDB = Hazardous Substances Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; RTECS = Registry of Toxic Effects of Chemical Substances

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TABLE 3-2. Physical and Chemical Properties of Pyridine

Property	Information	Reference
Molecular weight	79.10	Weast 1985
Color	Slightly yellow to colorless	Sax and Lewis 1987
Physical state	Liquid	Sax and Lewis 1987
Melting point	-42°C	Weast 1985
Boiling point	115.5°C	Weast 1985
Density at 20°C	0.9819	Weast 1985
Odor	Nauseating	Sax and Lewis 1987
Odor threshold:		
Water	0.95 mg/L	Amoore and Hautala 1983
Air	0.17 ppm	Amoore and Hautala 1983
Solubility:		
Water at 20°C	Very soluble	Sax and Lewis 1987
Organic solvents	Soluble in alcohol, ether, benzene	Sax and Lewis 1987
Partition coefficients:		
Log K_{ow}	0.64/1.04	Verschueren 1983
Log K_{oc}	0.84	Roy and Griffin 1985
Vapor pressure at 13.2°C	10 mmHg	Sax 1984
at 20°C	14 mmHg	Verschueren 1983
at 25.5°C	20.6 mmHg	Chao et al. 1983
at 30°C	26 mmHg	Verschueren 1983
Henry's law constant:	1.1×10^{-5} atm-m^3-$mole^{-1}$ (25°C)	Hawthorne et al. 1985
Autoignition temperature	900°F (482°C)	Sax and Lewis 1987
Flashpoint	68°F (20°C) (closed cup)	Sax and Lewis 1987
Flammability limits	Lower 1.8, upper 12.4	*HSDB* 1989
Conversion factors	1 mg/m^3 = 0.30 ppm	Verschueren 1983
	1 ppm = 3.29 mg/m^3	Verschueren 1983
Explosive limits	1.8-12.4%	Sax and Lewis 1987
pKa	5.19	Reinhardt and Brittelli 1981