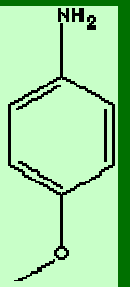
p-ANISIDINE



PRODUCT IDENTIFICATION

CAS NO.	104-94-9, 20265-97-8 (hydrochloride)
EINECS NO.	203-254-2
FORMULA	$CH_3OC_6H_4NH_2$
MOL WT.	123.15
H.S.CODE	2922.29.0300
TOXICITY	Oral rat LD50: 1400 mg/kg
SYNONYMS	4-methoxybenzenamine; p-Aminoanisole; 1-Amino-4-methoxybenzene; 4-Aminoanisole; 4-Methoxy-1-aminobenzene; 4-Methoxyaniline; 4-Anisidine; p-Methoxyphenylamine; p-Anisylamine;
SMILES	c1(ccc(N)cc1)OC
CLASSIFICATION	Aromatic amine, Methoxyaniline

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	light yellow to brown crystalline solid
MELTING POINT	58 C
BOILING POINT	243 C
SPECIFIC GRAVITY	1.07
SOLUBILITY IN WATER	21 g/l at 20 C
SOLVENT SOLUBILITY	Freely soluble in methanol, ethanol and ether. Soluble in acetone and benzene
VAPOR DENSITY	4.28
pKa	5.34 (Dissociation Constant at 20 C)
log Pow	0.95 (Octanol-water)
VAPOR PRESSURE	0.03 (mmHg at 25 C)
HENRY'S LAW	6.60E-08 (atm-m3/mole at 25 C)
OH RATE	9.39E-11 (cm3/molecule-sec at 25 C Atmospheric)
AUTOIGNITION TEMP	515 C
REFRACTIVE INDEX	1.5559
FLASH POINT	122 C

GENERAL DESCRIPTION & EXTERNAL LINKS

Ether is any of a number of organic compounds characterized by an oxygen atom joined with single bonds by two carbon atoms that are part of hydrocarbon groups. The general formula is R-O-R', where R and R' are alkyl or aromatic groups. Ethers are formed by the condensation of two alcohols by heating with sulfuric acid; the reaction is one of dehydration. Ethers can be prepared from alkyl halide reacted with metallic alkoxide (called Williamson synthesis). Ethers are similar to alcohols but are generally less dense, less soluble in water, and have lower boiling points. They are relatively unreactive, which makes them valuable solvents. But ethers will be cleaved at high temperatures by concentrated hydrogen halides. Ethers have relatively low boiling point compare to alkanes as they don't form hydrogen bonds each other. Ethers are more lipophilic than esters [R-C(=O)-O-R']or amides [$RCO-NH_2$]. Ethers are widely used as solvents for various organic reactions because they are relatively the least reactive among common organic compounds except alkanes and fluorocarbons. The common reaction of ethers is cleavage of the C–O bond by strong acids either in linear chain or cyclic structure. Ethers in which oxygen is bonded to primary and secondary alkyl groups can form peroxide compounds in the presence of gaseous oxygen due to two unpaired electrons in oxygen. Ethers can act as Lewis bases in chemical reactions. Commonly, ethers are named simply in listing the alkyl groups in alphabetical order or alkane order such as ethyl methyl ether or methyl ethyl ether, which is methoxyethane in IUPAC nomenclature (the formula of "alkoxyalkane"). When ether is a parts of complex molecule or aromatic derivatives, it is described as an alkoxy substituent such as methoxybenzene (trivial name is anisole). The methoxy prefix indicates the function methyl group joined by single bonds to an oxygen atom, with the general formula -O-CH_3. Cyclic ethers have ring structure where the oxygen has become part of the ring.

The term of epoxide indicate three membered cyclic ether (also called oxirane) in which an oxygen atom is joined to each of two carbon atoms that are already bonded to each other; four membered cyclic ether is called oxetane; five membered cyclic ether, furan (or oxolane); six membered cyclic ether, pyran (also called oxane) respectively. Their unhindered oxygen atom carries two unshared pairs of electrons - a structure which favors the formation of coordination complexes and the solvation of cations. Cyclic ethers are used as important solvents, as chemical intermediate and as monomer for ring-opening polymerization. Crown Ether is a macrocyclic polyether whose structure contains hydrogen, carbon and oxygen atoms. Each oxygen atoms are confined between two carbon atoms and exhibits a conformation with a hole (accordingly called "crown"). Anisole is one of the simplest aromatic compound to which ether group is linked. But it is different with aromatic compounds like furan where the oxygen is a part of the ring. Anisole, $C_6H_5OCH_3$ (methyl phenyl ether), is a clear liquid that is soluble in ether and alcohol; insoluble in water; boiling point 155 C. Anisole and its derivatives are used as solvents and in perfumery. Anisole can be obtained from anise seed. Anisic acid, p-methoxybenzoic acid, is a part of cresol class antiseptic compounds. It is also used as an insect repellent and ovicide. Anisole, anisic acid, and their derivatives are also widely used in chemical reaction as intermediates to obtain target materials such as dyes, pharmaceuticals, perfumes, photoinitiators and agrochemicals. Anisidines, methoxyanilines, are used as intermediates for the synthesis of azo dyes, pigments and other chemical compounds.

AROMATIC AMINES AND HYDRAZIDES AS CORROSION INHIBITORS FOR PAPER-PULP INDUSTRY)
CONCLUSIONS:The following conclusions are drawn from the present investigation:
The corrosivity of the washer stage for mild steel was maximum followed by those of white water and bleaching section.
In the bleaching section, the corrosion inhibition efficiency, evaluated through weight loss study, was found maximum for LH (87.2 %) and was followed in decreasing order by those of PANI (82.3 %), UDH (76.4 %) and ANI (70.9 %).
In the white water environment, the corrosion inhibition efficiency, evaluated through weight loss study, was highest for lauric hydrazide (84.9 %) and decreases progressively for undecenoic hydrazide (78.9 %), panisidine (74.6 %), and aniline (72.2 %).
In the washer stage, lauric hydrazide exhibited corrosion inhibition efficiency of 86.6 %, while p-anisidine showed 57.3 % at concentration of 500 ppm.
Overall performance of LH as a corrosion inhibitor was found to be the best among all the corrosive environments encountered in the pulp paper industry. Further, its effectiveness is quite high even at the lowest concentration of 200 ppm.

SALES SPECIFICATION	
APPEARANCE	Light yellow to brown crystalline solid
ASSAY (BY MASS)	99.0% min
ISOMER IMPURITY	0.2% max
MELTING POINT	57 C min

TRANSPORTATION	
PACKING	
HAZARD CLASS	6.1
UN NO.	2431

SAFETY INFORMATION

Hazard Symbols: T+ N, Risk Phrases: 26/27/28-33-50, Safety Phrases: 28-36/37-45-61