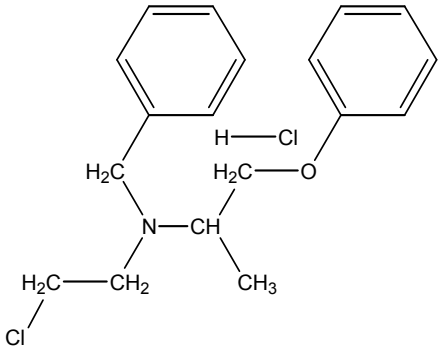
PHENOXYBENZAMINE HYDROCHLORIDE
CAS No. 63-92-3
First Listed in the *Fifth Annual Report on Carcinogens*



CARCINOGENICITY

Phenoxybenzamine hydrochloride is *reasonably anticipated to be a human carcinogen* based on sufficient evidence of carcinogenicity of in experimental animals (NCI 1978, IARC 1980). When injected intraperitoneally in mice and rats, phenoxybenzamine hydrochloride induced peritoneal sarcomas in mice and rats of both sexes. When injected intraperitoneally, phenoxybenzamine (free base) produced an increased incidence of lung tumors in mice of both sexes.

No adequate human studies of the relationship between exposure to phenoxybenzamine hydrochloride and human cancer have been reported (IARC 1980, 1987).

PROPERTIES

Phenoxybenzamine hydrochloride is a colorless or white, odorless, almost tasteless crystalline powder that is sparingly soluble in water, and soluble in ethanol, chloroform, and propylene glycol. It is insoluble in diethyl ether. Neutral and alkaline solutions are unstable. Phenoxybenzamine hydrochloride is sensitive to oxidation and photodegradation (IARC 1980, HSDB 2000). It is also sensitive to light and air. When heated to decomposition, phenoxybenzamine hydrochloride emits toxic fumes of hydrochloric acid and other chlorinated compounds as well as nitrogen oxides (NTP 2001). This compound is available in the United States as a grade containing 98% to 101% active ingredient on a dried basis, and as capsules containing 90% to 110% of the stated amount of phenoxybenzamine hydrochloride (IARC 1980).

USE

Phenoxybenzamine hydrochloride is an α-adrenergic receptor blocking agent that was used in the past to treat peripheral vascular disorders, to control hypertension, and to treat shock (NCI 1978, IARC 1980). It is now primarily used to treat hypertension caused by pheochromocytoma. Under certain conditions, it is used to treat benign prostatic hypertrophy; however, this use is not included in the product labeling (MEDLINEplus 2001).

PRODUCTION

Phenoxybenzamine hydrochloride has been produced commercially in the United States by one company since 1953 (IARC 1980). No production, import, or export data for phenoxybenzamine hydrochloride were available. There are seven current suppliers of this drug in the U.S. (Chem Sources 2001).

EXPOSURE

The primary routes of potential human exposure to phenoxybenzamine hydrochloride are dermal contact during its production, and ingestion during its medical use. The usual adult dosage is 10 mg twice a day, increasing to 20 to 40 mg two or three times a day, as long as there are no adverse effects on blood pressure. For children, the dose is based on body weight and typically begins at 0.2 mg/kg given once per day, but may increase to 0.4 to 1.2 mg/kg given in three or four daily divided doses (MEDLINEplus 2001). The National Occupational Exposure Survey (1981-1983) indicated that 797 workers, including 406 women, potentially were exposed to phenoxybenzamine hydrochloride in the workplace (NIOSH 1984). This estimate was based only on observations of the actual use of the compound. Phenoxybenzamine hydrochloride was not included in the National Occupational Hazard Survey conducted by NIOSH from 1972 to 1974.

REGULATIONS

OSHA regulates phenoxybenzamine hydrochloride under the Hazard Communication Standard and as a chemical hazard in laboratories. Regulations are summarized in Volume II, Table 146.

REFERENCES

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