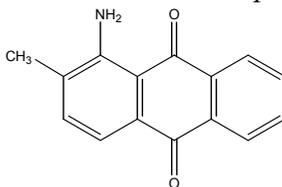


1-AMINO-2-METHYLANTHRAQUINONE

CAS No. 82-28-0

First Listed in the *Third Annual Report on Carcinogens*



CARCINOGENICITY

1-Amino-2-methylanthraquinone is *reasonably anticipated to be a human carcinogen* based on sufficient evidence of carcinogenicity in experimental animals. Technical grade 1-amino-2-methylanthraquinone, administered in the feed, induced hepatocellular carcinomas in rats of both sexes, and kidney carcinomas in males. The compound induced an increased combined incidence of hepatocellular carcinomas and neoplastic nodules in female mice (NCI 1978). An IARC Working Group concluded that the evidence for the carcinogenicity of 1-amino-2-methylanthraquinone in experimental animals was limited (IARC 1982). In view of a NCI/OTA correlative interpretation, the evidence may be regarded as sufficient (Griesemer and Cueto 1980, OTA 1981, IARC 1987).

No adequate data were available to evaluate the carcinogenicity of 1-amino-2-methylanthraquinone in humans (IARC 1982).

PROPERTIES

1-Amino-2-methylanthraquinone occurs as an orange crystalline solid that is insoluble in water, slightly soluble in carbon tetrachloride, and soluble in acetone, ethanol, ether, benzene, chloroform, and acetic acid (NTP 2001). It is stable under normal laboratory conditions, but is incompatible with strong oxidizers. When heated to decomposition, it emits toxic fumes of nitrogen oxides, carbon monoxide, and carbon dioxide (NTP 2001).

USE

1-Amino-2-methylanthraquinone is used almost exclusively as a dye and dye intermediate for the production of a variety of anthraquinone dyes; however, there is no evidence that it was ever produced for commercial use in the United States (IARC 1982). It was used as a dye for synthetic fibers, wool sheepskins, furs, and thermoplastic resins (HSDB 2001, NTP 2001).

Solvent Blue 13 and Acid Blue 47 are the only dyes derived from 1-amino-2-methylanthraquinone that were produced in the U.S. Solvent Blue 13 was last produced in 1947 and Acid Blue 47 was last produced in 1973 (IARC 1982).

PRODUCTION

1-Amino-2-methylantraquinone is no longer produced commercially in the United States (HSDB 2001). U.S. production began in 1948 and ended in 1970 (IARC 1982). Three current suppliers were identified (Chem Sources 2001). The IARC (1982) stated that imports through principal U.S. customs were last reported in 1972, when 264 lb were imported into the U.S. (IARC 1982).

EXPOSURE

The primary routes of potential human exposure to 1-amino-2-methylantraquinone are inhalation and dermal contact. The potential for occupational exposure was greatest among workers engaged in textile dyeing. The National Occupational Hazard Survey, conducted by NIOSH from 1972 to 1974, reported no information on 1-amino-2-methylantraquinone alone, but estimated that 6,400 workers have possibly been exposed to anthraquinone dyes (NIOSH 1976). Exposure is limited because 1-amino-2-methylantraquinone is no longer commercially produced in the U.S. (HSDB 2001).

REGULATIONS

EPA regulates 1-amino-2-methylantraquinone under the Superfund Amendments and Reauthorization Act (SARA); general threshold amounts have been set for this compound.

OSHA regulates 1-amino-2-methylantraquinone under the Hazard Communication Standard and as a chemical hazard in laboratories. Regulations are summarized in Volume II, Table 11.

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