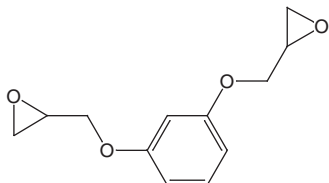


Diglycidyl Resorcinol Ether

CAS No. 101-90-6

Reasonably anticipated to be a human carcinogen
First Listed in the *Fifth Annual Report on Carcinogens* (1989)



Carcinogenicity

Diglycidyl resorcinol ether is *reasonably anticipated to be a human carcinogen* based on sufficient evidence of carcinogenicity in experimental animals (IARC 1985, 1999, NTP 1986). When administered by gavage, the chemical induced squamous cell carcinomas and papillomas of the forestomach in rats and mice of both sexes.

No adequate data were available to evaluate the carcinogenicity of diglycidyl resorcinol ether in humans (IARC 1985, 1999).

Properties

Diglycidyl resorcinol ether is a combustible, straw-yellow liquid with a slight phenolic odor. It is miscible with acetone, chloroform, methanol, benzene, and most organic solvents. When heated or exposed to flame, diglycidyl resorcinol ether vapors can explode (IARC 1976, 1985, 1999, HSDB 2000).

Use

Diglycidyl resorcinol ether is used as a liquid spray epoxy resin and as a reactive diluent in the production of other epoxy resins used in electrical, tooling, adhesive, and laminating applications (IARC 1976). It is also used as a curing agent in the production of polysulfide rubber and as a coating for metal and certain pavements to increase tensile strength (IARC 1985, HSDB 2000).

Production

Diglycidyl resorcinol ether is not currently produced commercially in the United States (HSDB 2000); it had previously been produced domestically in commercial quantities by only one company, and while production volumes are considered to be proprietary information, the 1977 production was estimated to be between 10,000 and 100,000 lb annually by this single manufacturer (TSCA 1979, IARC 1985). Before 1977, diglycidyl resorcinol ether was produced by two U.S. firms. It has been produced since at least 1974 (IARC 1985, 1999). Chem Sources (2001) identified one U.S. supplier of the chemical. Data on imports and exports were not available.

Exposure

The primary routes of potential human exposure to diglycidyl resorcinol ether are inhalation and dermal contact mainly during its production. Consumer exposure may occur through the use of epoxy resin products. The National Occupational Hazard Survey, conducted by NIOSH from 1972 to 1974, estimated that 3,106 workers were potentially exposed to diglycidyl resorcinol ether in the workplace (NIOSH 1976). This estimate was derived from observations of the actual use of the compound (44% of total observations), the use of trade name products known to contain the compound (55%), and the use of generic products suspected of containing the compound (1%). The National Occupational Exposure Survey (1981-1983) indicated that 740 workers were potentially exposed to diglycidyl resorcinol ether (NIOSH 1984). This estimate was based only on observations of the actual use of the compound.

Total environmental releases from the two facilities reporting diglycidyl resorcinol ether emissions to the EPA for the year 1996 were 510 lb, given as absolute air release. Total air emissions of 500 lb were given by a facility located in Maple Shade, New Jersey, reporting under Standard Industrial Classification (SIC) Code 2851, paints and allied products (TRI96 1998). Total air emissions in 1999 for the same reporting facilities decreased to 20 lb (TRI99 2001).

Regulations

EPA

Emergency Planning and Community Right-To-Know Act

Toxics Release Inventory: Listed substance subject to reporting requirements

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