

A decision to deny a petition is final Agency action subject to review. If the Administrator decides to grant a petition, the Agency publishes a written explanation of the Administrator's decision, along with a proposed rule to add or delete the substance. The proposed rule is open to public comment and public hearing, and all additional substantive information received is considered prior to the issuance of a final rule.

To delete a substance from the HAP list, section 112(b)(3)(C) provides that the Administrator must determine that:

* * * there is adequate data on the health and environmental effects of the substance to determine that emissions, ambient concentrations, bioaccumulation of deposition of the substance may not reasonably be anticipated to cause any adverse effects to the human health or adverse environmental effects.

We do not interpret CAA section 112(b)(3)(C) to require absolute certainty that a pollutant will not cause adverse effects on human health or the environment before it may be deleted from the list. The use of the terms "adequate" and "reasonably" indicate that the Agency must weigh the potential uncertainties and likely significance. Uncertainties concerning the risks of adverse health or environmental effects may be mitigated if we can determine that projected exposures are sufficiently low in relation to levels where adverse effects may occur to provide reasonable assurance that such adverse effects will not occur. Similarly, uncertainties concerning the magnitude of projected exposures may be mitigated if we can determine that the levels which might cause adverse health or environmental effects are sufficiently high to provide reasonable assurance that exposures will not reach harmful levels. However, the burden remains on a petitioner to demonstrate that the available data support an affirmative determination that emissions of a substance may not be reasonably anticipated to result in adverse effects on human health or the environment. The EPA will not remove a substance from the list of HAP based merely on the inability to conclude that emissions of the substance will cause adverse effects on human health or the environment. As a part of the requisite demonstration, a petitioner must resolve any critical uncertainties associated with missing information. We will not grant a petition to delete a substance if there are major uncertainties that need to be addressed before we would have sufficient information to make the requisite determination.

III. EPA Analysis of the Petition

A. Background

The broad category of glycol ethers (GE) are general solvents, also known as cellosolves. In 2000, ethylene glycol monobutyl ether made up an estimated 45 percent of the total GE production in the U.S. (or 325,000–350,000 tons). It is a colorless liquid with a mild, rancid odor. It is soluble in most organic solvents and mineral oil. It mixes with acetone, benzene, carbon tetrachloride, ethyl ether, n-heptane and water, and it is miscible with many ketones, ethers, alcohols, aromatic paraffin, and halogenated hydrocarbons.

Ethylene glycol monobutyl ether is used in hydraulic fluids and as a coupling agent for water-based coatings. It is used in vinyl and acrylic paints and varnishes and as a solvent for varnishes, enamels, spray lacquers, dry cleaning compounds, textiles, and cosmetics. Ethylene glycol monobutyl ether is a solvent for grease and grime in industrial cleaning. It is also used as a freeze-thaw agent in latex paints and emulsions, and as an intermediate in the production of esters, ethers, alkoxy alkyl halides, polyether alcohols, hemiacetals and acetals.

The petition states that EGBE released to the air has a half life of 3 to 33 hours. However, the California Air Resources Board (CARB) reports an EGBE half-life of 14 to 22 hours. The midpoint in these ranges of both these half-lives is 18 hours, and we used this value in our analysis as it represents a reasonable estimate of the half-life of EGBE. The petition identifies the principal oxidation products of EGBE as n-butyl formate, 2-hydroxyethyl formate, propionaldehyde, 3-hydroxybutyl formate, and several isomeric forms of an organic nitrate compound. Only one of these compounds (*i.e.*, propionaldehyde) is a listed HAP. However, the formate esters are known to transform in the atmosphere into formaldehyde, which is another listed HAP. In addition, propionaldehyde undergoes further transformation to formaldehyde and acetaldehyde (which is also a HAP).

The portion of EGBE that does not degrade to secondary products in the air, rapidly partitions to soil and water. Once in soil, EGBE is further decomposed through biotic processes, but it has been estimated that as much as 35 percent of the EGBE deposited on soil can eventually move to water. Due to its low volatility, high solubility, low vapor pressure, and minimal tendency to bind to sediments, once in surface water EGBE tends to remain dissolved until it biodegrades (half life = 1 to 4

weeks). It has a low bioconcentration factor, therefore, it is not anticipated to accumulate in the environment or in food stuffs.

Its relatively rapid biodegradation in water indicates that humans are unlikely to be exposed to significant amounts of EGBE in drinking water. However, the fact that EGBE released to the air preferentially partitions to water does raise a question concerning the risk from EGBE ingestion originating from air releases. Based on our review of the available information on EGBE, we have concluded that inhalation and ingestion are the important routes of nonoccupational exposures resulting from EGBE emissions, and consider these two routes of exposure in evaluating this petition.

B. Exposure Assessment

As a first step in evaluating the petition's inhalation risk assessment, we reviewed the petitioner's emissions inventory upon which the modeling was based. The petitioner used the 1993 Toxics Release Inventory (TRI) as a starting point to identify emissions of GE, including EGBE. To locate facilities emitting EGBE which were not included in the TRI, the petitioner searched EPA's TTN to identify regulatory documentation that might contain EGBE emissions data. This documentation includes information on recently promulgated maximum control technology (MACT) standards, information on area sources, and consumer and commercial product Volatile Organic Compounds (VOC) rules. The petitioner searched the National Air Toxics Clearinghouse which contains a database of State air toxic programs identifying those States with active air toxics programs and those that collected chemical specific data and contacted the State agencies for data. The petitioner also contacted 12 trade associations concerned with the use of EGBE to obtain data regarding industry use of EGBE and/or GE. Lastly, the petitioner contacted facilities known to be large EGBE emission sources to obtain specific modeling data, such as emission rates, stack height, distance to fence line.

After reviewing the petitioner's inventory, we have concluded that the methods used to identify sources of EGBE emissions are adequate and provide a reasonable representation of the EGBE emissions. To evaluate the overall completeness of the inventory, we compared the petition's list of EGBE emission sources to EPA's 1996 National Toxics Inventory (NTI), which is now called the National Emissions Inventory (NEI). We found the