brain tissue It is not particularly irritating to the skin and not much of it is absorbed through the skin

Ethylene glycol monobutyl ether (butyl Cellosolve) is a colorless liquid much like the other ethers of ethylene glycol in solvent properties Because of its higher molecular weight, it is less volatile than Cellosolve or methyl Cellosolve There is little other information about the compound except that it produces inflammation of the kidneys and some blood changes on inhalation It also has an irritating effect on mucous membranes

Ethylene glycol monoethyl ether (Cellosolve) has approximately the same action as ethylene glycol but is considerably less toxic Since it has a low vapor pressure, it is not usually considered dangerous by inhalation except in the form of a mist

Ethylene glycol monomethyl ether (methyl Cellosolve) Although clinical data are inadequate for valid comparisons, animal studies have shown that the acute toxicity of this compound is about twice that of ethylene glycol, with similar toxic effects Central nervous depression is observed, as with ethylene glycol, but kidney injury and hematuria (the passage of blood in the urine) are more marked

Methyl Cellosolve evaporates more rapidly than the other commercially available glycol ethers and will penetrate intact skin Some workers who are exposed to this substance may suffer from anemia and nervous disorders

Ethylene oxide (1,2-epoxyethane) is used mainly as a fumigant and as a chemical reagent As a chemical reagent, it has proved hazardous in the production of explosively violent reactions with mercaptans and with alcohols As a fumigant, it is both toxic, mostly as a severe irritant to the respiratory system including the lungs, and a cause of very severe forms of dermatitis

Applied directly to the skin, the liquid and its solutions in water are primary irritants, about a 50 percent water solution being the most irritating concentration By repeated applications, individuals become sensitized Three of eight volunteer subjects became sensitized in 19 to 20 days

Ethylenimine (aziridine, dihydroazirine, dimethylenimine) It has been reported that inhalation of ethylenimine produces irritation of the entire respiratory tract as well as congestion, edema, and hemorrhage of the lungs Kidney damage was also noted The effect of inhalation may not be apparent for several hours

The possibility of respiratory sensitization should be kept in mind Liquid ethylenimine, a strong skin irritant and vesicant (which may also produce sensitization), readily penetrates the skin and produces severe systemic effects The liquid and vapor phases of ethylenimine are highly toxic, corrosive, and flammable The odor of ethylenimine may be detected at about 2 ppm but is not sufficiently alarming to serve as a warning Its lack of warning properties and delayed onset of symptoms make it especially hazardous Complete capture of vapor by local exhaust ventilation is essential Protective clothing must be worn in order to prevent skin contact

Ethyl ether is not primarily a toxicity hazard although it is an irritant in concentrations already in the lower narcotic range It is an accident hazard because of the confusion and changes in reflexes which are induced Inhalation of 3 5 percent of ether for 30 to 40 minutes will produce unconsciousness At 7 0 to 7 5 percent, irritation of the upper respiratory tract will produce coughing Industrial exposures of 1000 to 2000 and even 3000 ppm have not been uncommon, but exposure below the TLV is readily obtained by usual engineering design

Ethyl formate is a volatile, highly flammable solvent with a mild, pleasant odor It is the least toxic of the formates which, in turn, are the least toxic of the simple aliphatic esters Ethyl formate is extremely irritating to the eyes and the upper respiratory tract

Ethyl mercaptan, the sulfide ester of ethyl alcohol, is a foul-smelling gas used mainly for adding an odor to things which should be made noticeable Its effects are qualitatively the same as those of hydrogen sulfide although it is quantitatively substantially less toxic The odor is a good warning of toxic concentration