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**Attachment to May 11, 1999, IEER Press Release**

**Summary of the Uses and the Effects of the Chemicals  
Reportedly Present or Released as a Result of the NATO bombing of the  
Pancevo petrochemical complex in Yugoslavia**

Data are from [New Jersey Health Facts Sheets](#). Data on a large number of chemicals, including uses, acute effects, long-term effects, and ecological effects can be found at this address. The listed postal address for the New Jersey Department of Health, the source of the data, is New Jersey Department of Health, Right to Know Program, CN 368, Trenton, NJ 08625 0368. The [Right to Know Network](#) gives its organizational identification as follows: "RTK NET started in 1989 in support of the Emergency Planning and Community Right to Know Act (EPCRA), which mandated public access to the Toxic Release Inventory. RTK NET is funded by several foundations and government agencies and operated by two nonprofit organizations: OMB Watch and The Unison Institute." Its office is in Washington DC. The exposure limits given below are workplace limits. Capital letters in the quotes below are as in the Internet postings.

**1. Phosgene**

Phosgene, which was used as a chemical warfare agent during World War I, is used industrially to make polyurethanes, resins, isocyanates, pesticides, herbicides, pharmaceuticals, and dyes. Its hazard summary is as follows:

- "Phosgene can affect you when breathed in."
- "Exposure to even low levels can cause severe burns of the lungs. Irritation or discomfort may not be noticed until hours after exposure, but can lead to fluid in the lungs, which can cause death."
- "Repeated exposure to very low levels can cause permanent lung damage."
- "Phosgene is a CORROSIVE CHEMICAL and contact with liquid Phosgene can cause severe burns of the eyes and skin with permanent damage."

A full-face respirator should be used when phosgene is present in concentration of more than 0.1 parts per million. Short-term exposure limit is 0.2 parts per million. Exposure to levels of 2 parts per million "is immediately dangerous to life and health."

**2. Vinyl Chloride** Vinyl chloride is used as a feedstock in the manufacture of PVC (polyvinyl chloride. Its hazard summary is as follows:

- "Vinyl Chloride can affect you when breathed and by passing through skin."

- "Vinyl Chloride is a **CARCINOGEN HANDLE WITH EXTREME CAUTION**. It also may cause damage to the developing fetus."
- "Exposure can cause you to feel dizzy, lightheaded and sleepy. Higher levels can cause you to pass out and even die."
- "Repeated exposure can damage the liver, the bones and blood vessels of the hands, and cause skin changes."
- "Vinyl Chloride may cause stomach problems, kidney damage, skin allergy and damage the nervous system and blood."
- "It is a **HIGHLY FLAMMABLE LIQUID** or **GAS** and a **DANGEROUS FIRE HAZARD**."

The workplace eight-hour concentration limit is 1 part per million and the fifteen-minute limit is 5.0 parts per million. Note that the carcinogenicity of vinyl chloride is currently being re-evaluated by the US Environmental Protection Agency. The EPA's IRIS database lists "carcinogenicity assessment" for this material as "not available at this time."

### 3. **Ethylene dichloride**

1,2-Dichloroethane is another name for ethylene dichloride. It is used to make vinyl chloride, as a solvent, and in other industrial applications. Its five-minute exposure limit is 200 parts per million.

- "1,2-Dichloroethane can affect you when breathed in and by passing through your skin."
- "1,2-Dichloroethane should be handled as a **CARCINOGEN WITH EXTREME CAUTION**."
- Exposure can cause nausea, headaches, dizziness, liver and kidney damage and can cause you to pass out and even die."
- "Exposure can irritate the nose, throat and lungs. Higher levels can cause fluid build up in the lungs (pulmonary edema). This can cause death."
- "Contact can irritate the skin and eyes."
- "1,2-Dichloroethane is a **FLAMMABLE LIQUID** and a **FIRE HAZARD**."

### 4. **Ammonia**

Ammonia is used in fertilizer manufacture and in making plastics, dyes, and textiles. Its workplace limit is 50 parts per million during any five minute period. Its hazard summary is as follows:

- "Ammonia can affect you when breathed in."
- "Breathing Ammonia may irritate the lungs, causing coughing and/or shortness of breath. Higher exposures can cause a buildup of fluid in the lungs (pulmonary edema), which can cause death."
- "Ammonia is a **CORROSIVE CHEMICAL** and can severely burn the eyes, leading to permanent damage. Contact with Ammonia liquid can severely burn the skin."

- "Long term exposure to Ammonia can cause chronic irritation of the eyes, nose, mouth, and throat."