2-Ethoxyethanol

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CAS No. 110-80-5

2-Ethoxyethanol (ethylene glycol monoethyl ether, trade names: Cellosolve, Ethyl Cellosolve, EGEE) is a common organic solvent.

2-Ethoxyethanol is a colourless liquid, with a sweet odour. It dissolves readily in both water and organic solvents (acetone, benzene, carbon tetrachloride, etc.) [NPI]

2-Ethoxyethanol can form explosive peroxides. It reacts with strong oxidants. This generates fire and explosion hazard. Above 44°C explosive vapour/air mixtures may be formed [CDC].

Usage and exposure

This substance is manufactured and/or imported in the European Economic Area in 100 - 1 000 tonnes per year. This substance is used by consumers, by professional workers (widespread uses), in formulation or re-packing, at industrial sites and in manufacturing [ECHA].

2-Ethoxyethanol is used in the manufacture of chemicals, in the scientific research and development, laboratory chemicals [ECHA].

It is used in the semiconductor industry. It is also used in surface coatings such as lacquers and paints. It is used in varnish removers, printing inks, duplicating fluids, wood stains, and epoxies [NPI].

Diffuse emissions to air are from commercial and household painting, staining and use of varnish and lacquers. Some inks will also give off low levels of 2-Ethoxyethanol [NPI].

Routs of exposure:

Inhalation, skin absorption, ingestion, skin and/or eye contact [CDC].

Target organs:

Eyes, respiratory system, blood, kidneys, liver, reproductive system, hematopoietic system [CDC].

Health hazards:

Eyes- Blurred vision, redness, pain [ILO].

Skin exposure: 2-Ethoxyethanol may be absorbed through the skin [ILO].

Inhalation of 2-Ethoxyethanol may cause cough, drowsiness, headache, shortness of breath, sore throat, weakness, unconsciousness [ILO].

Ingestion may cause abdominal pain, nausea, vomiting [ILO].

Short-term exposures may irritate the eyes, nose, and throat. Very high levels may cause dizziness, lightheaded. Long-term effects from exposure to 2-Ethoxyethanol are possible kidney damage, damaged blood cells, damaged testes in males, and decreased fertility in males. 2-Ethoxyethanol has been shown to be a teratogen in animal studies, and is a possible human teratogen [NPI].

References:

- CDC, Centers for Disease Control and Prevention. NIOSH Pocket Guide to Chemical Hazards. 2-Ethoxyethanol**.** www.cdc.gov/niosh/npg/npgd0258.html
- ECHA, European Chemical Agency. Substance information. 2-Ethoxyethanol. https://echa.europa.eu/substance-information/-/substanceinfo/100.003.459.
- ILO, International Labour Organization. International Chemical Safety Cards. 2-Ethoxyethanol. www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=0060&p_version=2
- NPI. National Pollutant Inventory. Australian Government. Department of Environment and Energy. 2-Ethoxyethanol. http://www.npi.gov.au/resource/2-ethoxyethanol.