

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

September 27, 2001

TO: Styrene-butadiene polymer file (CAS # 9003-55-8)
FROM: Gary Butterfield
SUBJECT: Screening level for Styrene-butadiene polymer

The chemical properties of styrene-butadiene polymer could not be clearly identified. It is reported to be a solid with a melting point of -60 degrees Celsius. This information would seem to mean that it is a liquid at normal temperatures. The main use for Styrene-butadiene polymer is making synthetic rubber. It can also be found in some latex materials.

The following references or databases were searched to identify data to determine the screening level: U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS), National Institute for Occupational Safety and Health (NIOSH) Registry for Toxic Effects of Chemical Substances (RTECS), American Conference of Governmental and Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), Michigan Department of Environmental Quality (DEQ) library, International Agency for Research on Cancer (IARC) Monographs, Chemical Abstract Service (CAS) Online (1967 — August 2001), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report. The CAS and NLM on-line searches were conducted on August 15, 2001.

No toxicity data that could be used to set an ITSL for this polymer was located during the literature searches. A few epidemiology studies indicate that there may be some carcinogenic potential for Styrene-butadiene polymer, as well as there being some studies that found no increased carcinogenic potential. The positive epidemiology study's carcinogenic effects resulted in only slight increases in cancer incidence. The slight increase may have been due to exposure to other chemicals rather than Styrene-butadiene polymer. Due to there being no clear evidence of increased cancer effects, IARC has classified Styrene-butadiene polymer as a Class 3 carcinogen-not able to be identified as to its potential for causing carcinogenic effects.

Due to a lack of available toxicity data, the ITSL for Styrene-butadiene polymer is being set at $0.1 \mu\text{g}/\text{m}^3$ with annual averaging under R232 (i).

GB:DB

cc: Cathy Simon, AQD
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