

LAB Sulfonic Acid CAS 68584-22-5:

This message is regarding a linear alkylbenzene (LAB) sulfonic acid product CAS 68584-22-5 that is categorized as a priority chemical on the Domestic Substance List. The message is being sent on behalf of CEPSA Quimica, S.A., a Spanish company that is a world leader in linear alkylbenzene (LAB) production, with an LAB plant in Canada (Bécancour – Québec). The main use for LAB is production of linear alkylbenzene sulfonate (LAS), a major cleaning agent (surfactant) used in laundry and cleaning products in Canada and worldwide. LAB sulfonic acid is the sulfonated derivative of LAB that is exclusively used as an intermediate in the production of LAS.

In providing this information on LAB sulfonic acid, CEPSA is supported by CLER, the Council for LAB/LAS Environmental Research, an organization of scientists and technical specialists representing manufacturers of LAB, LAS and LAB sulfonic acids. CLER's mission is to conduct research and distribute scientific information on the environmental and human safety of these materials.

LAB sulfonic acid is a well documented product, with extensive data available from the US High Production Volume (HPV) Challenge Program (<http://epa.gov/hpv/pubs/summaries/linalkbz/c14485tc.htm>). Furthermore, LAB sulfonic acid is closely related in its environmental and human health properties to LAS, which is the sodium salt of LAB sulfonic acids (US HPV assessment document, p. 8). Under physiological conditions, and in the aqueous environment at neutral pHs, LAB sulfonic acids disassociates to form the linear alkylbenzene sulfonate anion, the identical chemical species formed by LAS under these conditions. Consequently, relevant data on LAS (from a 2005 OECD SIDS Assessment Report, available at: <http://www.chem.unep.ch/irptc/sids/oecd/sids/LAS.pdf>) has been used where appropriate to supplement the information available on LAB sulfonic acid.

Based on the extensive data available, we are providing the following information with the request that the information be used to update the categorization of LAB sulfonic acid CAS 68584-22-5 on the DSL:

Bioaccumulative?

Data are available on LAS from a bioconcentration factor (BCF) study in fish (fathead minnows) following OECD Guideline 305E (OECD SIDS Assessment, p. 17). The results, BCF = 87, calculated from the data on individual LAS homologues and isomers for a commercial LAS mixture (C11.6 LAS), indicate low bioaccumulative potential. The BCF findings are supported by other data indicating rapid metabolism (deuration) in fish (and in rats) of LAS.

The extensive data available on LAS, as well as the fact that LAB sulfonic acid and LAS produce the identical chemical anion under physiological and neutral environmental conditions, strongly supports the DSL categorization that LAB sulfonic acid is not bioaccumulative.

Persistent?

The available data (US HPV IUCLID Data Set, p. 18) indicate that LAB sulfonic acids undergo rapid and complete biodegradation in OECD ready tests, i.e. 69% mineralization after 28 days (OECD 301B). LAS demonstrates ready biodegradability in OECD 301A and 301B tests (See OECD SIDS Assessment, pp. 15-16).

The weight of available evidence strongly supports the DSL categorization that LAB sulfonic acid is not persistent.

Human Health Priorities?

Regarding potential consumer exposures, the US HPV Assessment document (p. 8) reports:

The entire production of LAB sulfonic acids is used as intermediates in the production of LAS. In many, but not all, cases the intermediates are site limited, i.e., they remain on the production facility for use in the LAS production process. In some cases the intermediates are sold to outside LAS manufacturers. Transport to these off-site facilities is conducted following strict health and safety procedures and transportation regulations.

All processing of LAB and LAB sulfonic acids takes place in closed systems that significantly minimize worker exposure. Workers also wear standard personal protective equipment including safety goggles, face shields, safety shoes, impervious nitrile gloves, long sleeved clothing, and rubber boots. Workers may also employ cartridge-type respirators equipped with organic vapor cartridges and acid-resistant suits, for example, during steaming and washing. The closed production process and use of personal protective equipment effectively eliminates exposure to production workers. Un-ionized LAB sulfonic acid is not present after neutralization during manufacture of LAS detergent products. Therefore, no consumer exposure to LAB Sulfonic Acids from detergent use is possible.

Based on the exposure assessment, LAB sulfonic acid should be categorized as Lowest Potential for Exposure and Low Human Health Priority.

Meets Human Health Categorization Criteria?

Based on the available data (above) demonstrating that LAB sulfonic acid has low potential for human exposure and is neither persistent nor bioaccumulative, LAB sulfonic acid does not meet the human health criteria.

Meets CEPA Categorization Criteria?

Based on the available data (above) demonstrating that LAB sulfonic acid does not meet the human health categorization criteria, LAB sulfonic acid does not meet the CEPA criteria.

We respectfully request that the information cited in this message be used to update the categorization of LAB sulfonic acid CAS 68584-22-5 on the DSL and that this information be retained in the CEPA DSL file on this material.

Additional information sources

Additional information on LAB sulfonic acid may be found at the websites for Ecosol (<http://www.lasinfo.org/>) and CLER (www.cler.com).