

Dibutyltin compounds, Dibutyltin

LANXESS Solutions US Inc. is a global partner for the manufacturing, marketing and development of specialty organometallic products. These products are used in polymer production, synthesis of fine chemicals and pharmaceuticals, processes for production of photovoltaic modules, and glass coating and automotive anticorrosion coatings.

Identification

Product Trade Names:

- Axion[®] CS 2430
- Axion CS 2455
- Axion CS 2455w
- Axion CS 2460
- Axion CS 2470
- DBTCL
- DBTO

Chemical Names:

- Dibutyltin dibutoxide
- Dibutyltin dichloride
- Dibutyltin oxide

Description

The main applications for dibutyltin compounds include the manufacturing of PVC heat stabilizers, as well as catalysts for the manufacturing of esters and curing of coatings in cataphoretic applications.

LANXESS' dibutyltin compounds are also used as catalysts for condensation of special silicones. They are often not visible in the final product, as they are transformed into other materials or destroyed during the production process.

Product Safety Assessment: Dibutyltin

Physical/Chemical Properties:

Dibutyltin compounds are a group of chemicals comprised of a tin atom directly connected to two butyl groups. The substances are solid (powder) or liquid, and the color varies from white to yellow. Dibutyltins are difficult to ignite, substantially insoluble in water and substantially non-volatile. However, they are harmful to the environment. They can also lead to acute and chronic health hazards. For this reason they may only be handled by trained, appropriately protected and equipped workers in appropriate industrial settings.

Health Effects:

Dibutyltin compounds are toxic if swallowed; some are fatal if inhaled. They are harmful in contact with skin and can cause skin irritation or allergic skin reactions. Some dibutyltins cause severe skin burns. They can also cause serious eye irritation or damage, as well as damage to organs. Dibutyltin compounds should be avoided by women who are pregnant or who may want to become pregnant due to potential damage to the fetus or fertility. In addition, some are suspected of causing genetic defects.

Potential Environmental Impact

Dibutyltin compounds are very toxic to aquatic organisms and may cause long-term adverse effects to the aquatic environment.

Product Stewardship:

LANXESS SOLUTIONS US INC. conducts an ongoing analysis of its products to evaluate potential risk areas throughout the product's life cycle. Chemical risks are identified at the very early stage of new product development. They are evaluated by stage-gated reviews using environmental, health and safety (EHS) criteria. The analysis of existing products will evaluate raw materials, manufacturing, transportation, customer end-use and disposal. Additionally, before changes in existing product formulations are made, a detailed evaluation is made of the proposed change. A critical component of all of these processes is the Safety Data Sheet, which lists detailed product hazard information.

Regulatory Compliance:

Because dibutyltins are reactive, many regulatory agencies supervise the transportation, use and disposal of these materials.

Product Safety Assessment: Dibutyltin

The U.S. Department of Transportation and the International Maritime Organization classify dibutyltins as toxic and environmentally hazardous. International shipping is controlled by the United Nations Transport of Dangerous Goods Code.

The use of dibutyltins is covered in the U.S. by the Toxic Substances Control Act (TSCA) and in Europe by REACH.

Manufacturing and Processing:

Manufacturing takes place in closed systems, so the likelihood of releases and the dangers associated with them is minimized. These production units are regularly inspected by third-party inspectors certified by regulatory authorities.

LANXESS SOLUTIONS US INC. has more than 50 years of experience synthesizing and handling these compounds.

The LANXESS dibutyltin product portfolio is manufactured in Bergkamen, Germany.

Release Control and Disposal:

Spill and leak control measures are used in manufacturing and storage. Contaminated material must be classified and labeled prior to recycling or disposal. Dibutyltins must be disposed of via combustion in accordance with local regulations.

Transportation:

The substances are transported in approved packaging in accordance with relevant transport regulations. Approved packaging includes standard steel drums, big bags, paper bags with suitable protective liner and combination packaging of various sizes.

Exposure Potential:

All processes, including manufacturing, transportation, disposal and emissions are controlled and regulated by state authorities and regulations. Specific community and consumer exposure is not expected through normal distribution and use.

Due to the biohazard properties of dibutyltin compounds, any exposure to the material should be avoided. These materials could affect the skin and the respiratory tract. Therefore, workers should not be exposed to

Product Safety Assessment: Dibutyltin

aerosols during their manufacture, packaging, transportation and final application. Any residual dibutyltin in finished goods is controlled; there is no risk of exposure from the final product.

Proper disposal of packaging is necessary, as well, to prevent accidental releases into the environment. Workers handling these substances need to be trained on the material properties and must wear special protective equipment when there is a risk of exposure.

LANXESS Solutions US Inc. sells these products only to approved commercial customers whose employees have received proper training in their handling and use.

Conclusion

The products which are produced using dibutyltin compounds are an integral part of daily life. They enable us to live as comfortable, safe, and future-oriented as possible. The risks associated with handling in the manufacturing setting are managed through training, engineering controls, personal protective equipment, and compliance with applicable regulations governing the transportation, use, and disposal of these materials. Dibutyltin compounds do not represent a risk to consumers who use the end products.

Contact Information

For more information, please contact us by our web site: <http://www.LANXESS.com>

Notices

Use and Application Information

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.