



European Semiconductor Industry Association

ESIA Position

on WHO recommendation to add Gamma-butyrolactone (GBL) and 1,4-butanediol (BDO) to Schedule I of the 1971 Convention on Psychotropic Substances

Brussels, February 2015

Summary

The European Semiconductor Industry Association (ESIA) recommends that members of the UN Commission on Narcotic Drugs and the relevant EU member states involved should oppose the proposed recommendation to add both GBL and BDO to Schedule I of the 1971 Convention on Psychotropic Substances as the appropriate measure to manage GBL and BDO in their upcoming meetings on March 9-17, 2015 in Vienna.

I. Introduction

Gamma-butyrolactone (GBL) (CAS No. 96-48-0) is a widely used as an industrial solvent, and it also has critical uses in the semiconductor manufacturing industry (microchips). 1,4-butanediol (BDO) (CAS No. 110-63-4), is critical in the production of n-Methylpyrrolidone (nMP), an essential chemical in the production of advanced semiconductors. The World Health Organization (WHO) has recommended to the United Nations Commission on Narcotic Drugs that both GBL and BDO be added to Schedule I of the 1971 Convention on Psychotropic Substances. If this recommendation is approved at an upcoming meeting, the use of these chemicals would be restricted to certain scientific and medical uses and the downstream semiconductor industry would be prohibited from continuing legitimate and critical uses of this substance for the manufacture of semiconductors. ESIA believes that the proposed listing is not the appropriate way to address chemicals that are essential to important downstream user industrial sectors like semiconductors. The EU should try to work with other countries and manufacturers of these industrial chemicals to identify appropriate ways to regulate these materials in a proportional manner that will not restrict the legitimate uses of these materials in the semiconductor industry.

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In ESIA's view the Critical Review Reports for BDO and GBL as drafted for the WHO Secretariat underline these concerns. In both reports it is stated in the summaries that: *"Coupled with the appreciation that 1,4-BD [in the case of BDO] /GBL [in the case of GBL] is used as an industrial chemical with production and trade in the millions [in the case of BDO] /thousands [in the case of GBL] of metric tons, controlling it as a psychotropic substance equivalent to GHB would likely not result in benefits to justify the burdens such controls would impose".*

II. GBL and BDO are critical chemicals for the Semiconductor Industry

GBL is used as a critical carrier solvent in key semiconductor manufacturing process known as lithography in process formulations such as photoresist, in antireflective coatings, and as a polyimide, chemical shrink, metal hard mask and as an active agent in edge bead removal and stripper. BDO is an essential precursor in the production of nMP, another essential material in the production of semiconductors.

III. Minimal Risk of Diversion of Chemicals in the Semiconductor Industry

The risk of diversion of chemicals from semiconductor manufacturing factories to illicit drug sources is extremely low:

- The semiconductor industry use of GBL is in specifically designed formulations for the industry with various concentrations ranking from 1 % to 60 % and a variety of substances whose specific physicochemical properties make the separation and further re use of the pure solvent rather impossible.
- To protect the significant capital investment and intellectual property, semiconductor facilities employ extensive security measures and the risk of diversion of GBL to illicit uses is minimal. Access to semiconductor facilities is highly controlled and all employees and visitors must pass through security check stations. Chemical storage areas within the facility have additional levels of security control.
- The current practices in the semiconductor industry for handling and managing GBL, and of our direct suppliers in managing BDO, are appropriate and safeguard the legitimate and essential uses of these materials.

IV. What is the Impact of Restricting these Chemicals on the Semiconductor Industry?

Semiconductor devices are electronic components that enable virtually all modern electronics. Semiconductors are used to process and store information in a variety of industrial, medical and consumer products including computers, electronics, machinery, telecommunications, and transportation equipment. Semiconductor devices are the key enabler for improved energy consumption and improved performance across a wide range, of everyday technology applications in society. These applications in the field of industrial

operations, consumer electronics, healthcare, security and energy devices have contributed to positive societal benefits. Restricting these chemicals in the semiconductor industry would disrupt the manufacture of semiconductors and the globally integrated supply chain and potentially reduce the availability of these semiconductor devices.

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ABOUT ESIA

The European Semiconductor Industry Association (ESIA) is the voice of the Semiconductor Industry in Europe. Its mission is to represent and promote the common interests of the Europe based semiconductor industry towards the European Institutions and stakeholders in order to ensure a sustainable business environment and foster its global competitiveness. As a provider of key enabling technologies the industry creates innovative solutions for industrial development, contributing to economic growth and responding to major societal challenges. Being ranked as the most R&D intensive sector by the European Commission, the European Semi-conductor ecosystem supports approx. 200.000 jobs directly and up to 1.000.000 induced jobs in systems, applications and services in Europe. Overall, micro- and nano-electronics enable the generation of at least 10% of GDP in Europe and the world.