

## REACH

**REACH** stands for the **R**egistration, **E**valuation, **A**uthorization of **C**hemicals. This new EU regulation centralizes and simplifies chemicals legislation throughout Europe and entered into force on 1st of June 2007. The declared aim is to improve the level of knowledge about the dangers and risks that chemicals may pose.

As a supplier of LCDs and LCD – modules we are increasingly asked whether our products are concerned from the new rules. For your information we comment on our goods as follows.

- according to the definition our products are articles – according to REACH „an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition“.
- according to the REACH – regulations substances which
  - ▶ are present in those articles in quantities totaling over one ton per producer or importer per year
  - ▶ are present in those articles above a concentration of 0,1 % weight by weight (w/w).
  - ▶ are classified as dangerous
  - ▶ are intended to be released from articles under normal or reasonably foreseeable conditions of use

must be registered. This applies to substances on their own, in preparations and in articles. In case of LCDs a possibly required registration of the LC – mixtures could be necessary.

According to our searches it does not apply to our products, because

- an exceeding of the 1 – ton – limit for single substances appears improbable. But we don't know about the production amount of the single liquid crystals. The leading manufacturer of LC – mixtures, MERCK KGaA in Darmstadt confirmed that they are prepared to execute all required measures for the registration if the quantities exceed the 1 – ton – limit so that the REACH - conformity of the product can be proved by the LCD – maker.
- the content of liquid crystals in an article is usually under a concentration of 0,1 % weight by weight (w/w).
- dangerous substances are substances according to the ECHA Candidate List of Substances of Very High Concern (ECHA, October 28, 2008 and following updates:
  - . update on June 18, 2010
  - . update on December 15, 2010
  - . update on December 19, 2011
  - . update on June 18, 2012
  - . update on December 19, 2012
  - . update on June 20, 2013
  - . update on December 16, 2013
  - . update on June 16, 2014
  - . updated on December 17, 2014
  - . update on June 15, 2015
  - . update on December 17, 2015
  - . update on June 20, 2016,
  - . update on January 12, 2017
  - . update on July 10, 2017)

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and substances which have or may have PBT, sensitizing and / or carcinogenic, mutagenic or toxic for reproduction (CMR) properties, or substances classified as dangerous according to vPvB ( very persistent and very bioaccumulative ( article 57 and article 59 (1))).

Liquid crystal substances are single chemicals or mixtures which are neither acutely toxic or mutagenic. On account of previous experiences it is gone out of the fact, that they are harmless for people and environment (Toxicological and Ecotoxicological Investigations of Liquid Crystals and Disposal of LCDs, Merck 2003).

- in case of LCDs no substances are intended to be released under normal or reasonably foreseeable conditions of use.
- the information named above also apply to the used and as article of trade sold connectors (zebra connector and heat seal connector) .

The result corresponds to the current state of the legal regulations and our own investigations.

Karlsruhe, October 11, 2017

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