Innovative substances in the spotlight of chemicals legislation REACH

Industry initiative „IMAT“

Innovative Semiconductor Materials

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Innovative Materials for Sustainable High-Tech Electronics, Photonics and Related Industries (IMAT)

- companies from the semiconductor and optoelectronic industry throughout the whole value added chain:

Manufacturer of substances to those manufacturing electronic chips and the users of these components.

This corporate platform stands for fair and even-handed treatment of their innovative key materials and technologies under the European Chemicals Regulation (CLP and REACH Regulation).

www.vdma.org/imat

AG IMAT – Industry Initiative

- Airbus Defence and Space GmbH
- Azur Space Solar Power GmbH
- Freiberger Compound Materials GmbH (FCM)
- Jenoptik Diode Lab GmbH
- OSRAM Opto Semiconductors GmbH
- Thales
- Trumpf GmbH & Co. KG
- United Monolithic Semiconductors GmbH (UMS)
- Vishay Semiconductors GmbH

- Fraunhofer Heinrich-Hertz-Institut (HHI)
- Fraunhofer Institut für Angewandte Festkörperphysik(IAF)
- Fraunhofer Institut für Solare Energiesysteme (ISE)

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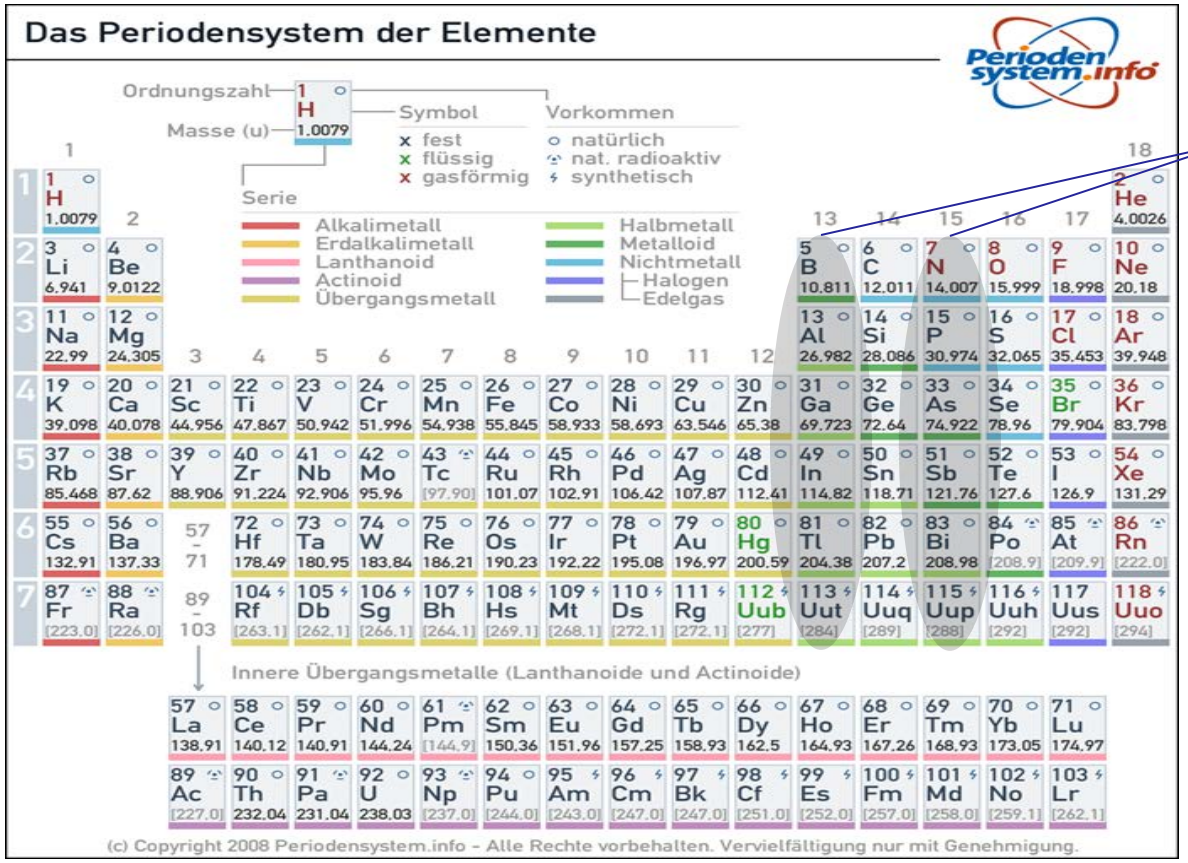


Substance Portfolio

- **Gallium arsenide**
- Indium phosphide
- Gallium nitrid
- Gallium phosphide
- Indium antimonide

Innovative Semiconductor Materials

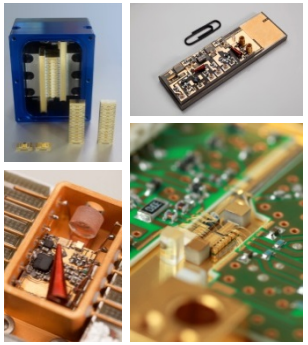
GaAs

- Complexity of value chain, wide dispersive use
- Very small quantities
- Risk is adequately controlled
- Increasing demand for emerging technologies

(Ga is officially recognised as a Critical Raw Material in EU)

Manufacturing
of substance and wafers
within EU

Epitaxy



Components

Complex high-end products

Gallium arsenide– Regulatory Status

GaAs experienced the longest and most contentious harmonized classification process so far.

Specific endpoints: GaAs as canc 1b:

- 5th ATP (Adoption to technical progress) to regulation No 1272/2008 publication in the official journal on 2nd October 2013
- Inclusion of amendments of 5th ATP in Annex VI of CLP **1st January 2015**.

GaAs as reprotox 1b:

- 7th ATP (Adoption to technical progress) to regulation No 1272/2008 publication in the official journal **expected in April 2014**
- Inclusion of amendments of 7th ATP in Annex VI of CLP expected in the **end of 2016**

Gallium arsenide– Regulatory Status

GaAs has not yet entered the REACH authorization process (starting with the identification as SVHC) but there is a latent risk that the process may be initiated in the future. That could subsequently lead to:

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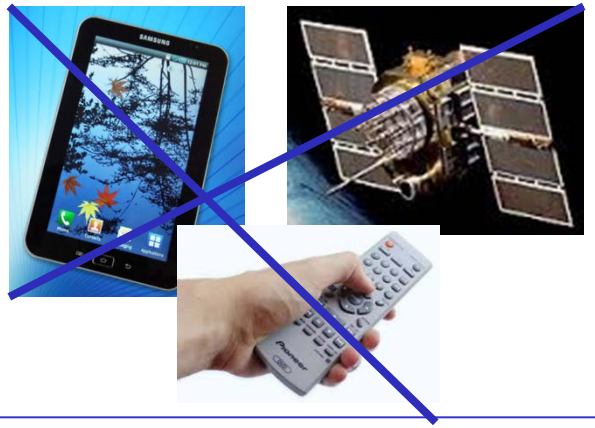
- RMO-A
- Identification as SVHC → candidate list inclusion
- Prioritisation for REACH Annex XIV
- REACH Annex XIV inclusion

Duty to substitute where possible! Increasing pressure



Options and actions to be aken by industry?

Gallium arsenide– IMAT activities

Outlook:
'Shadow' dossiers
IMAT to prepare their "shadow" Annex XV dossiers, socio-economic and replacement information; RMO assessment, which can be submitted to the authority when appropriate.

Challenge:
- consultation windows of two-three months are often too short to collect, aggregate and assess all relevant information covering all industry uses of a substance

- IMAT to get organised earlier ahead of the formal start of consultation
- to provide decision-relevant input to the authorities
- To obtain a different outcome to having to go through the standard authorisation procedure

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Gallium arsenide– IMAT activities

- **Assuring a high level of preparedness**
  - Establishing an „early warning system“
  - To have all data available for public consultations
  - To involve all stakeholders early in the process
  - To build up a competence center and process knowledge
  - To allocate financial and human resources

- **Projects** :
  - High-quality registration dossier for GaAs
  - Technical data (material science, exposure scenarios and risk assessment in the value chain, information on uses)
  - Promoted R&D program on REACh data
  - Focus on SVHC advocacy strategy
    - RMO- Analysis, consequences of SVHC Roadmap
  - Assessment of socio-economic information along the entire value chain
  - Intensifying communication and exchange with CA’s and politicians
  - Cross industry exchange-network

Gallium arsenide– IMAT activities

A technical group prepares currently a shadow Annex XV dossier for possible RMOA or Public Consultation (PC) for SVHC Candidate Listing.

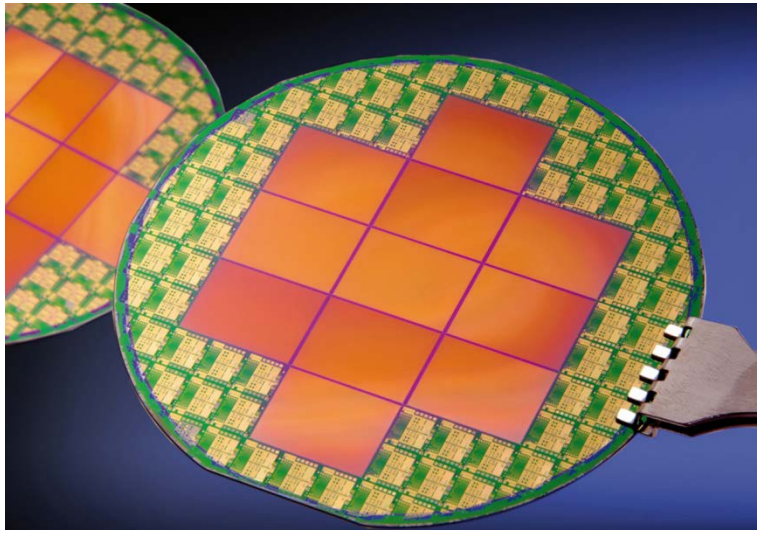
Additional background information about the potential environmental/economic/social consequences of a non-use scenario should be elaborated (ie. case that GaAs will not available after a defined sunset-date) in order to:

- ensure a proper assessment of Risk Management Options (RMOA) and quick reaction during PC's
- To point out the non-proportionality of authorisation or restriction procedure
- To complement technical data, required in Annex XV SVHC dossier

- This shadow dossier would benefit from space-sector specific information.

- **The aim is not a SEA as required for an Application for Authorisation but rather an economic data collection to evaluate current boundary conditions of the business environment**

Contact



Further Information
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