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How to use AI in Material Compliance and Databases — Chances and Risks

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The use of Artificial Intelligence (AI) in material databases (e.g., IMDS) and in material compliance in general is increasingly becoming a key tool for the efficient processing, analysis and evaluation of substance and product data. AI-enabled applications support standardized and structured evaluation of large volumes of data, early identification of compliance risks, and assistance with regulatory requirements (e.g., REACH, RoHS, TSCA).

>> OBJECTIVE

You will understand the fundamentals, functionalities, and the possible applications of artificial intelligence (AI) in the field of material databases (e.g., IMDS, CDX, BOMcheck, and others) as well as in material compliance. You will be able to carry out AI-supported analyses and plausibility checks of material data, research regulatory substance information, and identify typical compliance risks. You will be aware of the limitations of AI and be able to critically assess the results of AI applications.

Your advantage: You will learn how targeted use of AI can change how material data is checked, assessed and documented — with direct impact on product development, supply chain management, quality assurance, and data management.

>> TOPICS COVERED (1)

Background on Artificial Intelligence (AI)

- Significance of AI
- What AI is – and what it isn't
- Why AI is especially relevant right now for compliance & material data
- Common myths and misconceptions in industrial environments

AI models & operating models within the company

- Overview of common types of AI tools
- Open vs. Enterprise AI
- Cloud vs. On-Premise
- The human role: AI as an assistant, not a decision-maker

Risks and challenges associated with the use of AI

- Hallucinations and a false sense of security
- Misinterpretation of regulatory requirements
- Dependence on training data
- Responsibility and liability
- Risks in supplier communication
- Typical sources of errors in compliance processes
- Data-related risks and loss of control when using AI

General AI Application Possibilities in Daily Work

- Documentation & Text Processing
  - Creation of templates
  - Structuring large volumes of text
  - Document comparison
  - Support for presentations and reports
- Regulatory and Technical Support
  - Explanation of regulatory terms
  - Drafting supplier and customer inquiries and responses
  - Analysis of historical inquiries (identifying patterns)
- Communication & Network
  - Identifying appropriate contacts
  - Support in escalation situations

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>> TOPICS COVERED (2)

AI Application Possibilities in Material Databases
(e.g. IMDS)

- Terms of Use of Material Databases
- Data Analysis & Plausibility Checks
  - Plausibility checks
  - Comparison with known material profiles
- Support with substance information
  - Identifying and assigning CAS numbers
  - Identifying synonyms and alternative substance names
  - Support for legacy data
- Structure & Presentation
  - Symbols and designations defined
  - Deriving material groups
  - Support with classifications

KI application possibilities in Material Compliance

- Analysis & research
  - Assess substance relevance
  - Assess TARIC code relevance
  - Identifying complete material declarations
  - Assess data quality
  - Identifying typical compliance gaps
  - Comparison of different declaration statuses
- Compliance Assessment
  - Initial assessment of material compliance (MC)
  - Risk-based prioritization of components
  - Derivation of verification and testing requirements
  - Support for Due Diligence processes
- Regulatory Support
  - Support in interpreting substance lists
  - Early-warning systems for potential compliance risks
  - Scenario analysis for regulatory changes

Prompt Creation – Effective Use of AI

- Why the quality of the question is crucial
- Structure of good prompts
- Typical prompt-design errors
- Iterative interaction with AI
- Practical IMDS & MC examples

Limitations of AI in Material Data & Compliance

- Where AI must not be used
- Why expert knowledge remains essential
- Delimitation between support and legally binding assessment
- Role of audits, reviews, and approvals

Organizational Framework

- Principles for the responsible use of AI
- Clearly defined responsibilities
- Employee awareness and sensitization

Outlook

- Development of AI in the compliance environment
- Future requirements
- From reactive to proactive compliance management

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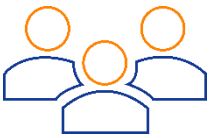
Teaching method

Lecture with demonstrations, exercises and discussion

Duration

240 Min. (4 hours)



Max. number of participants

14

>> TARGET GROUP

Material compliance responsible persons, IMDS users, and employees from the areas of product compliance, regulatory affairs, sustainability and environmental management, quality management, as well as purchasing and supplier management.

In addition, the seminar is aimed at technical managers, development managers, production managers, and executives, particularly from the automotive industry, the electrical and electronics industry, and other regulated industrial sectors.

>> PERSONAL REQUIREMENTS

No specific prior knowledge is required. Basic technical understanding or experience in a product-related environment is helpful but not mandatory.

>> DOCUMENTATION

You will receive a copy of the presentation used in class as a PDF.

>> CERTIFICATE OF PARTICIPATION

You will receive a personal certificate of participation that you can use to demonstrate your qualification.

>> PUBLIC TRAINING

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