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DGNB's feasibility assessment of the requirements of the EU taxonomy for Construction of New Buildings and Renovation of the Do No Significant Harm criteria for "Pollution prevention and control"

Summary

DGNB has evaluated the feasibility of the DNSH criterion for pollution prevention and control with DGNB's advisory committee for hazardous and risk related substances. Main concerns are:

- The **scope** of applying the criteria needs to be specified in more detail: Which “building components and materials” are meant? “Do not contain” is not an applicable definition for asbestos and SVHCs, a limit value is needed. And what exactly is meant with “contact with occupiers”: via air, skin, ingestion?
- Depending on the definition of the scope of “components and materials” **SVHCs** are either subject to declaration or not. This makes it very vague and arbitrary, if SVHCs are declared or not, thus detected or not. A **limit value** with clear references is needed to make this criterion applicable. Reference should be made to the CLP regulation.
- **Carcinogenic VOCs, other VOCs and formaldehyde** emissions of products need further specifications in the test conditions. Alternatively, for formaldehyde and VOCs, the topic could be approved by an adequate **indoor air testing** as an instrument of quality control.

Over the last 13 years, DGNB has developed a list of very specific requirements regarding dangerous and harmful materials, products and preparations. This list is part of the DGNB Certification system but can of course be applied separately. The lowest “quality level 0” takes several hazardous and risk related aspects more into account: lead, cadmium, tin, chromium(VI), artificial mineral fibers, halogenated propellants, DDT, PCB, HCH/Lindane and requires respective management. As for indoor air relevant VOCs, the management via a compulsory indoor air measurement has shown the strongest driver to prevent certain substances. The criterion can be found here:

https://static.dgnb.de/fileadmin/dgnb-system/en/buildings/new-construction/criteria/02_ENV1.2_Local-environmental-impact.pdf

In order to implement pollution prevention and control instruments for construction of new buildings and renovations as well as for single measures, we recommend the European Commission to refer in the EU Taxonomy Delegated Act to market proven instruments, such as the DGNB criteria list for local environmental impacts and to require indoor air measurements.

Background: Requirements of the draft delegated act of the EU Taxonomy for building related activities

Pollution prevention and control - “Building components and materials used in the construction do not contain asbestos nor substances of very high concern as identified on the basis of the list of substances subject to authorisation set out in Annex XIV to Regulation (EC) No 1907/2006 of the European Parliament and of the Council. Building components and materials used in the construction that may come into contact with occupiers emit less than 0,06 mg of formaldehyde per m³ of material or component and less than 0,001 mg of categories 1A and 1B carcinogenic volatile organic*

compounds per m³ of material or component, upon testing in accordance with CEN/TS 16516 and ISO 16000-3 or other comparable standardised test conditions and determination methods."

*"*Applying to paints and varnishes, ceiling tiles, floor coverings, including associated adhesives and sealants, internal insulation and interior surface treatments, such as those to treat damp and mold."*

Comments concerning the scope

A clear definition of the term "building components & materials" must be given, otherwise this criterion cannot be implemented. Secondly the term "do not contain" is not an applicable definition, a limit must be specified, e.g. < 0.1% with a corresponding reference.

The nomenclature "Building components and materials used in the construction that may come into contact with occupiers" is also unclear. What exactly is considered interior-relevant? What is the medium of contact: breathing air, skin contact, ingestion - or all? It has to be clarified whether it is practicable to define interior surfaces (possibly only in permanent workplaces, since these have relevant "contact times" to materials...). A reference to standards is recommended.

Comments concerning SVHCs

An unambiguous reference to the version of the REACH authorization list is required.

Secondly, which "building components and materials" are meant in this context? According to the current regulations, products along the supply chain that contain SVHC substances > 0.1% are subject to declaration. This means, however, that contained materials can exceed the limit value. Depending on the definition of the components (single parts, materials, etc.), the limit values applies or not. For manufacturers it would then be possible to pretend that products contain only materials that fall below the 0.1% limit. Rubber e.g. is present in a number of products in very small quantities. With this criterion, as defined now, it would not be feasible to address products that are subject to declaration via the call for tenders, which is the current construction practice.

A full list of all products installed in a building is very rarely available, because some products installed in buildings are not mentioned in any tender explicitly. A full declaration of materials following clear rules (e.g. what information is included, who is responsible, etc.) is an important basic requirement.

The introduction of a "building passport" or similar is rather recommended.

Comments concerning formaldehyde and carcinogenic VOCs emissions

An indoor air measurement could be used as an alternative approval for the requirements for VOCs and formaldehyde and is an adequate quality assurance instrument for product specific requirements. However, there is the problem that other formaldehyde / or error sources cannot be excluded from indoor air measurements, as opposed to the test chamber method. Thus, an indoor air measurement should not fully replace product-related test chamber measurements to declare the emission-levels but can be used either as an additional quality control instrument or in cases where full declaration is not practical.

The verification of VOC limit value for categories 1A and 1B carcinogenic VOCs is not very easy, due to the low limit value, since even the smallest disturbances exceed the measurements. The standard reference should be updated: The reference to ISO 16000-3 is not regarded necessary as this standard is practically contained in EN 16516. The Taxonomy criteria mentions a limit value related to EN 16516. From this it can be concluded that the product tests should be based on the reference space. The air change of 0.5/h is predetermined. But the loading depends on the applications. Test

conditions need to be clarified, the current definition leaves too much room for interpretation. In general, it would be very useful to refer to the CLP regulation. For formaldehyde, the release criterion of the REACH regulation prescribes the limit value of 0.06 mg/m³. This value refers to wood / timber-based materials.

German Sustainable Building Council – DGNB

Founded in 2007, the DGNB is now Europe's largest network for sustainable building with around 1,300 member organizations. The aim of the association is to promote sustainability in the construction and real estate industry and to anchor it in the awareness of the general public. With the DGNB certification system, the independent non-profit organization has developed a planning and optimization tool for evaluating sustainable buildings and neighborhoods, which helps to increase real sustainability in construction projects. The DGNB system is based on a holistic understanding of sustainability that equally includes the environment, people and profitability. In addition, more than 4,500 people in over 40 countries have already been trained to become experts in sustainable building via the advanced training platform DGNB Academy.

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