Assessment Criteria 6.0

SundaHus Miljödata

Date: 2013-10-30

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1 Introduction

SundaHus Miljödata is a tool for property owners to ensure that conscious choices are made on the materials in their buildings. With a web-based system and expert advice, SundaHus offers a comprehensive solution to systematize work on phasing out hazardous substances throughout a building's lifecycle.

The system offers various services and functions for the following building phases:

- Environment Program
- Planning
- Building
- Maintenance
- Demolition

The assessment of products is based on the supplier’s documentation and the SundaHus assessment criteria, which in turn are based on the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7), the European Parliament and Council Regulation (EC) No 1272/2008, and the Swedish Chemicals Inspectorate priority guide PRIO. As a reference for information on chemical substances, the C&L Inventory database with basic classification data on notified and registered substances, the N-and H-Class databases and the Prevent Chemical Substances database are also used.

This document describes the assessment criteria for SundaHus Miljödata Data.

2 Description of the assessments

The assessment of products is based on various properties and divided into four levels D, C^-, C^+, B or A where A is the best.

The following is a description of what each letter represents:

A: Products that:

1. give minimal health or environmental impacts associated with the PRIO properties defined in the Swedish Chemicals Inspectorate priority guide PRIO (e.g. carcinogenic, toxic to reproduction, endocrine disruptors, allergens etc.)
2. are not classified as hazardous for health or the environment during the construction phase
3. do not affect the indoor environment negatively through high emissions of volatile organic compounds
4. give minimal contribution to smog formation
5. do not emit excessive levels of formaldehyde (according to the E1 standard)
6. provide a minimal strain on natural resources and less to landfill mountains
7. have a long service life (for selected product groups)
8. are not likely to contribute to unsustainable forestry
9. have poor transparency regarding the product contents

B: Products that do not qualify for A and do not match the criteria for C^+ and/or C^-.

C+: Products for which workers, nearby communities and the environment risk exposure to substances of very high concern used for the manufacture of polymers.

C-: Products that:

1. could lead to an exposure to substances with PRIO properties (e.g. carcinogenic, toxic to reproduction, endocrine disruptors, allergens)
2. could lead to exposure to substances with other toxic properties
3. risk affecting the indoor environment negatively through high emissions of volatile organic compounds
4. contribute to smog formation through emissions of volatile organic compounds with high photochemical ozone creation potentials
5. contain substances or are produced with substances that at very low emissions can have a big impact on the climate
6. risk contributing to unsustainable forestry

D: Products with insufficient documentation for an assessment (see Table 1).

A summary of the conditions that apply to each assessment are listed in Table 2.

3 Assessment criteria

The products are divided into two groups. In some cases the different groups have separate assessment criteria.

The product groups are:

- Chemical products[1]
- Other products

3.1 Assessment policy

3.1.1 Assessments of risk phrases

1. If a substance in a product is present in the Swedish Chemicals Agency's Classification list, has a classification in the C&L Inventory database, or a classification in the N-Class or H-Class databases and the risk phrases differ from those specified in the supplier documents, we specify the strictest phrases.
2. If a supplier specifies different risk phrases for the same substance in different documents, we use those specified in the material safety data sheet, if available.
3. If risk phrases are missing in the supplier documentation and the substance is not in ESIS, the Swedish Chemicals Agency's Classification list or the N-Class or H-Class database, the most commonly notified classification in the C&L Inventory database is applied at first hand followed by Prevent database classifications.

3.1.2 Assessment of product contents

Our goal with listing the product contents is to present a picture of the possible amount of substances hazardous to health and / or the environment, and not to expose the actual recipe. We therefore show the "maximum amount" as below:

1. If the supplier indicates the amount as a range, e.g. 5 - 15 %, we indicate ≤ 15 %. This means that the total sum of the content may exceed 100 %.
2. If the supplier indicates different amounts for the same substances in different documents, we specify the amount listed in the material safety data sheet, if available.
3. If a product specific building product declaration lists substances other than those contained in the material safety data sheet, we also include these substances in the product content.
4. If the substance/material amount is not listed in the supplier documentation then the amount is treated as if it occurs with > 2 %.

3.1.3 Summing of input quantities of substances with the same properties

If several substances with the same properties (e.g. acute toxicity) are present in the same product, their concentrations are summed up for those with a “Yes” in the column “Summing of substance

[1] A chemical product is a chemical substance or a preparation / mixture of chemical substances that are not an article, as defined in REACH, Chapter 2.

quantities" in Table 2. The summed levels are then checked against the specified content limits in the "Conditions" column. This is a simplified application of the rules for the classification of mixtures of chemicals in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7) and the European Parliament and Council Regulation (EC) No 1272/2008.

3.1.4 Information requirement for full documentation

3.1.4.1 General requirements

Our basic position is that all substances contained in a product should be reported. But as we have noted from previous experience, this is not always the case. We therefore ask for specific information about the content of products in order to:

- ensure that the assessment process is as thorough as possible, which in turn raises the quality of the building's logbook
- ensure that low product transparency does not benefit the assessments

Table 1 describes the documentation that is required for each assessment. Note that Class 3 and 4 lead to the assessment D.

Table 1. A summary of the type of documentation required for the assessment.

Class	Chemical product	Other products
1. Complete documentation, assessment possible (gives assessments A, B, C^+ or C^- depending on the other assessment aspects)	Material Safety Data Sheet Building Product Declaration or other forms of environmental declarations (e.g. Environmental Product Declarations (EPDs))	Building Product Declaration or other forms of environmental declarations (e.g. EPDs and Product Environmental Profiles (PEPs))
2. Incomplete documentation, assessment possible (gives assessments B, C^+ or C^- depending on the other assessment aspects)	The information in the documentation is not complete, however an assessment is possible	The information in the documentation is not complete, however an assessment is possible
3. Incomplete documentation, assessment not possible (always gives assessment D)	The documentation lacks critical information, thus an assessment is not possible	The documentation lacks critical information, thus an assessment is not possible
4. Documentation missing. (always gives assessment D)	No relevant documentation is available for the assessment.	No relevant documentation is available for the assessment.

3.1.4.2 Worst case substances

In addition to the general requirements above on the kind of documentation that is needed for complete product documentation for the assessment, there are specific requirements for specific product groups. In cases where this specific information is missing, the so-called worst case substances/materials will be used to ensure that no critical elements are missed in the assessment. Worst-case substances are those that past experience or literature has shown can occur in particular product types.

4 Summary of the assessment criteria

Tabell 2. SundaHus assessment criteria

Properties/substance groups	Conditions	Summing of substance quantities	References
D: The product has insufficient documentation for an assessment.			
C-: The product does not have any properties applying to a D assessment, but has one or more of the following characteristics:			
Phase-out substances – chemical products	The product is classified with risk phrases that meet the criteria for phase-out substances. The product contains ≥ 0.1 % of remaining substances in the product that are classified with risk phrases that meet the criteria for phase-out substances.	Yes, for lead, mercury and cadmium	See PRIO criteria for phase-out substances.
Phase-out substances – other products	The product contains ≥ 0.1 % of remaining substances in the product that are classified with risk phrases that meet the criteria for phase-out substances.	Yes, for lead, mercury and cadmium	See PRIO criteria for phase-out substances.
Endocrine disruptors – chemical and other products	The product contains ≥ 0.1 % of remaining substances in the product that are present on the European Commission's Priority list of endocrine disruptive substances, category 1 and 2.	_	According to PRIO criteria for endocrine disruptive substances, endocrine disruptors are also considered to be phase-out substances.
Risk-reduction substances – chemical products	The product is classified according to the properties defined for risk-reduction substances.	_	See PRIO criteria for priority risk-reduction substances.
Risk-reduction substances – other products	The product contains > 2 % of remaining substances in the product that are classified with risk phrases that meet the criteria for risk-reduction substances.	_	See PRIO criteria for priority risk-reduction substances.

Properties/substance groups	Conditions	Summing of substance quantities	References
Carcinogenic, category 3 – chemical products	The product is classified with risk phrase R40.	–	
Carcinogenic, category 3 – other products	The product contains > 2 % of remaining substances in the product that are classified with risk phrase R40.	–	
Mutagenic category 3 – chemical products	The product is classified with risk phrase R68.	–	
Mutagenic category 3 – other products	The product contains > 2 % of remaining substances in the product that are classified with risk phrase R68.	–	
Toxic for reproduction, category 3 – chemical products	The product is classified with risk phrases R62 or R63.	–	
Toxic for reproduction, category 3 – other products	The product contains > 2 % of remaining substances in the product that are classified with risk phrases R62 or R63.	–	
Acute toxicity, risk of irreversible damage to health – chemical products	The product is classified with risk phrases R39 + R23, R24 or R25 or contains ≥ 10 % of remaining substances in the product classified with risk phrases R39 + R23, R24 or R25.	–	In accordance with the rules for the classification of mixtures relating to acute toxicity in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). In accordance with the rules for the classification of a mixture as specific target organ toxicant category 1 in the European Parliament and Council Regulation (EC) No 1272/2008.
Acute toxicity, risk of irreversible damage to health – other products	The product contains ≥ 10 % of remaining substances in the product that are classified with risk phrases R39 + R23, R24 or R25.	–	Adapted to the rules for the classification of mixtures with acute toxicity in Section 4.1, Table 2 in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). Adapted to the substance concentration limits in mixtures classified as Specific target organ toxicity, category 1 in Table 3.8.3 in the European Parliament and Council Regulation (EC) No 1272/2008.

Properties/substance groups	Conditions	Summing of substance quantities	References
Acute toxicity – chemical products	The product is classified with risk phrases R23, R24 or R25 or contains ≥ 25 % of remaining substances in the product that are classified with risk phrases R23, R24 or R25.	Yes	In accordance with the rules for the classification of mixtures relating to acute toxicity in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7).
Acute toxicity – other products	The product contains ≥ 25 % of remaining substances in the product that are classified with risk phrases R23, R24 or R25.	Yes	In accordance with the rules for the classification of mixtures relating to acute toxicity in section 4.1, table 1 in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7).
Hazardous to the aquatic environment, acute toxicity[3] – chemical products	The product is classified with risk phrase R50[2] or contains ≥ 25 % of remaining substances in the product that are classified with risk phrase R50.	Yes	In accordance with the rules for the classification of mixtures relating to acute toxicity in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). In accordance with the rules for classification of mixtures relating to Aquatic, Acute 1 in the European Parliament and Council Regulation (EC) No 1272/2008[3].
Hazardous to the aquatic environment, acute toxicity[3] – other products	The product contains ≥ 25 % of remaining substances in the product that are classified with risk phrase R50.	Yes	Adapted to the rules for the classification of mixtures with acute toxicity table 14 in section 6.1.2 in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). In accordance with the rules for classification of mixtures relating to Aquatic, Acute 1 in table 4.1.1 in the European Parliament and Council Regulation (EC) No 1272/2008[4].

[2] Note: R50/53 and R53 are handled under the PRIO criteria for priority risk-reduction substances.
[3] M-factor =1 in all calculations.
[4] M-factor =1 in all calculations.

Properties/substance groups	Conditions	Summing of substance quantities	References
Hazardous to the aquatic environment, chronic toxicity – chemical products	The product is classified with risk phrases R51/53 or R52/53 or contains ≥ 25 % of remaining substances in the product that are classified with risk phrases R51/53 or R52/53.	Yes	In accordance with the rules for the classification of mixtures relating to hazards to the aquatic environment, chronic toxicity in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). In accordance with the rules for classification of mixtures relating to hazards to the aquatic environment, chronic toxicity in the European Parliament and Council Regulation (EC) No 1272/2008.
Hazardous to the aquatic environment, chronic toxicity – other products	The product contains ≥ 25 % of remaining substances in the product that are classified with risk phrases R51/53 or R52/53.	Yes	Adapted to the rules for the classification of mixtures relating to hazards to the aquatic environment, chronic toxicity in table 13 and section 6.1 in the Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). Adapted to the rules for the classification of mixtures relating to hazards to the aquatic environment, chronic toxicity in table 4.1.2 in the European Parliament and Council Regulation (EC) No 1272/2008.
Volatile organic compounds – chemical and other products[5]	The product contains ≥ 10 % substances classified as volatile organic compounds (through risk phrases R20, R23, 65, R67 or R48/R20).	Yes	Maximum VOC content limit values for water based paints for interior glossy walls and ceilings (Gloss >25@60°), Phase II, Directive 2004/42/CE of the European Parliament and of the Council on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes. Photochemical ozone creation potential according to the UNECE report Protocol to the 1979 convention on long-range transboundary air pollution concerning the control of emissions of volatile organic Compounds or their transboundary fluxes.

[5] Volatile organic compound (VOC) means any organic compound having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3 kPa, according to the definition provided in the EU Directive 2004/42/CE.

Properties/substance groups	Conditions	Summing of substance quantities	References
Very high Global Warming Potential gases – chemical and other products	The product contains ≥ 0,1 % of a substance with a global warming potential (GWP) ≥ 150.	–	Fluorinated gases (F-gases) replace certain substances that deplete the ozone layer. The problem with the F-gases is that they contribute to global warming instead. According to the Environmental Protection Agency may also extremely low emissions have a significant impact on the climate. For reducing F-gas emissions for the purpose of achieving the EU climate change goals and fulfill the obligations under the Kyoto Protocol, the European Parliament and Council Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases (F-gas).
Substances that may cause harm to breast-fed babies – chemical products	The product contains ≥ 0,1 % of a substance classified with risk phrase R64.	–	–
Substances that may cause harm to breast-fed babies – other products	The product contains > 2 % of a substance classified with risk phrase R64.	–	–
Blacklisted plant species - other products	The product contains> 2 % of plant species that are on the CITES list of endangered species.	–	Within the EU, CITES has been applied through a special law. See the council regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein
C+: The product has no properties that lead to a C^- or D but has one or more of the following properties:			
Phase-out substances at the manufacturing stage – chemical and other products	> 2 % of a monomer classified with risk phrases that meet the criteria for phase-out substances has been used for the manufacture of this product.	–	Due to results from risk assessment and strategies for limiting the risks of vinyl chloride, butadiene, acrylonitrile-butadiene-nitrile and propylene oxide, the European Communities Commission issued a recommendation on special measures to reduce the risks associated with its management (see 2004/394EG and RAR for other substances) .
B: The product has no properties that lead to C^+, C^- or D and does not qualify for A.			

Properties/substance groups	Conditions	Summing of substance quantities	References
A: The product has no properties that lead to a C^+, C^- or D and it fulfills the following conditions:			
Hazardous to the environment, generally – chemical and other products	The product contains no substances classified with risk phrases for environmental hazards, i.e. risk phrases R50 – R59.	–	Substances classified according to KIFS 2005:7.
Health and environmental hazards – chemical products	The product is not classified as hazardous to health or the environment.	–	Products classified according to KIFS 2005:7.
Health and environmental hazards – other products	The product does not contain > 2 % of substances classified with risk phrases with numbers ≥ 20.	–	Substances classified according to KIFS 2005:7.
Volatile organic compounds[6] – chemical products	The product does not contain > 1 % volatile organic compounds.	Yes	In line with phase II, Directive 2004/42/CE of the European Parliament and of the Council on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes. Photochemical ozone creation potential according to the UNECE report Protocol to the 1979 convention on long-range transboundary air pollution concerning the control of emissions of volatile organic Compounds or their transboundary fluxes.
Formaldehyde – adhesive containing wood products	Formaldehyde E1 in accordance with EN 13986:2004, 14080:2005 (adhesive containing wood materials, wood paneling, particleboard, MDF, OSB, plywood), EN 14342:2005 (hardwood floors), EN 13986:2002 (wood paneling), EN 14041:2004 (textile flooring, laminated flooring, etc.).	–	A common indoor pollutant with a wide range of sources. Formaldehyde at low concentrations causes irritation of the eyes and respiratory tract for many individuals. It is classified as a carcinogen Carc 2 H351 in 1 of the European Parliament and Council Regulation (EC) No 1272/2008. Emission of formaldehyde from indoor surface materials. Barbara Kolarik, Lars Gunnarsen and Lis Winther Funch. *Proceedings of Healthy Buildings* 2009.

[6] Volatile organic compound (VOC) means any organic compound having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3 kPa, according to the definition provided in the EU Directive 2004/42/CE.

Properties/substance groups	Conditions	Summing of substance quantities	References
Hazardous waste – chemical and other products	This product is not hazardous waste during the demolition or construction phase and does not lead to landfill waste.	–	–
Waste management – chemical and other products	The product can be recycled, reused, energy recycled, or contains > 50 % renewable material. If only landfill deposition is specified for product disposal, it will be assumed to lack rapidly renewable, recyclable, energy recoverable or reusable material. The absence of information on waste management will prevent the product from an A assessment.	–	–
Service life – other products	Service life ≥ 25 years. Exclusively for products categorized with the following BSAB-codes: D, F, K, M.	–	–
Blacklisted plant species - other products	Does not contain any plant species found on the CITES-list of endangered species.	–	Within the EU, CITES has been applied as a special law. See the council regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein
Product transparency – chemical and other products	Complete documentation. The documentation has been published.	–	In order to obtain a good basis for fair assessments and to enhance the transparency regarding the contents of the products.