

## Byggarubedömningens guideline and information requirements for assessment of product, Version 2016-1.

These guidelines describe what information that Byggarubedömningen requires for assessment of articles and chemical products. Information about the article or chemical product can be provided in this document, alternatively refer to another documentation in which the corresponding information is given.

### 1. Product information

#### Product

Product name:	Radiator thermostat	
Article No.: <i>Specify the type of number, for example RSK, E number, EAN, GTIN or supplier's article number. This should also be stated on the application.</i>	013G2970; 013G2972; 013G2977; 013G2978; 013G2990; 013G2992	
Product description: <i>On application, please attach a product data sheet or similar documentation.</i>	Self-acting radiator valve thermostats for ambient temperature control in rooms having water based heating systems.	
Type of product:	<input type="checkbox"/> Chemical product	<input checked="" type="checkbox"/> Article
Date (year, month, day) of preparation/revision:	2016-09-30	

#### Supplier/Manufacturer

Supplier:	Danfoss	
Manufacturer if other than the supplier: <i>Voluntary information</i>		
Supplier contact:	Anders Gustavsson	
Address:	Danfoss AB SE 58199 Linköping	
E-mail:	anders.gustavsson@danfoss.com	
Phone number:	+46 1325 8586	

#### Supporting documentation

Has a declaration of performance, in line with the Swedish Construction Products Regulation, been prepared for the product?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, attach the declaration of performance with the application</i>		
Is the article/product an electronic product and covered by the RoHS-directive (2011/65/EU)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, attach an "EU Declaration of Conformity", or alternatively another certificate that attests that the product corresponds to the requirements according to the RoHS-directive (2011/65/EU), together with the application</i>		
If the article/product is an electronic product that is covered by an exemption according to RoHS-directive (2011/65/EU), specify which exemption and date (year, month, day) when the exemption expires if time-limited:	Exemptions according to RoHS:  Date:	

## 2. Declaration of contents:

Does the product or any of its subcomponents, if it is a composite product, contain substances with particularly hazardous properties (Substances of Very High Concern, SVHC-substances), which are included in the Candidate List at a concentration above 0.1 weight%?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, specify which substances in Table 1.</i>		
State the date (year, month, day) for control the Candidate List.	Date:	2016-09-30
The concentration is calculated at component level established on the principle "once a product, always a product" principle. The Candidate List is available at: <a href="http://echa.europa.eu/sv/candidate-list-table">http://echa.europa.eu/sv/candidate-list-table</a> .		

Specify the total content of the article or the chemical product, **on delivery**, in Table 1, or alternatively attach other documentation that provides the corresponding information. For instructions, please refer to the "Declaration of contents, BVB's declaration requirements, 2016-1", which is found at the end of this document.

**Table 1, Contents of included substances and material (declaration of content in accordance with requirements)**

Included substances and material	EG No./CAS No. (alternatively alloy)	Weight % (of entire product)	When applicable, state for which subcomponent	Weight% (of substance in subcomponent)	Comments (state eventual application of non-harmonized classifications)
Steel	1.0338	1-2.5%			
Steel	1.0873	20-25%			
Steel	1.3505	<1%			
Steel, spring wire	EN 10270-1	8-12%			
Stainless steel	1.4435	1-2.5%			
Tin bronze	CW452K	5-10%			
Zinc alloy	Z410	1-15%			
Plastic	ABS	15-20%			
Plastic	PBT, 30%GF	25-35%			
Plastic	PA, 0-35%GF	1-2.5%			
Plastic	PPS, 40%GF	1-2.5%			
Plastic	PC	<1%			
Plastic	PES	<1%			
Gas, N-Butane	106-97-8	<1%	Charging media		
Gas, 1-Buten	106-98-9	<1%	Charging media		
Grease	Molykote PG-75	<1%			
Slide lac	Bonderite L GP	<1%			
Glue (tape)	PET-foil, acrylid adhesive	<1%			

Are all substances reported in percentages down to 0.01% in Table 1? <i>(enable assessment with regard to the Recommended level)</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If not, does the report fulfill the instructions for the Accepted level, which is described in "Declaration of contents, BVB's declaration requirements, 2016-1", which is found at the end of this document</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If any deviations from BVB's reporting requirements exist, specify these in the comments in Table 1, or alternatively here.	Other comments:	

If the chemical composition differs after application, then the content of the applied product is given in Table 2. This applies to chemical products. If the content is unchanged, no information needs to be provided in the table.

**Table 2, Contents for applied products (full content in accordance with declaration requirements)**

Included substances and material	EG No./CAS No.	Weight% (of the applied product)	Comments (state any application of non-harmonized classifications)
If any deviations from BVB's reporting requirements exist, specify these in the comments in Table 2, or alternatively here.	Other comments:		

**Nanomaterial**

Does the product contain any nanomaterial that has been purposefully added to achieve a specific function? <i>Information regarding whether nanomaterial has been added to achieve a specific function must be stated, but has no impact on the assessment.</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, specify the material.</i>	Material:	

**3. Recycled raw material**

Does the product contain recycled material?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, fill in Table 3.</i>		

If the product consists of recycled materials specify the material and the percentages of the total weight of the product, in Table 3, Recycled materials.

**Table 3, Recycled material**

Material	Percentage (%) of the total product's weight	Percentage (%) of the recycled material that has not reached the consumer level, such as production waste, etc. (pre-consumer)	Percentage (%) of the recycled material that has reached the consumer level (post-consumer)	Comments

**If wood raw material is included**

Can the product be ordered with sustainability certificates for the wood raw material? <i>E.g.: FSC and PEFC</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Explain if the certificate does not cover all of the wood raw material:		
<i>If yes, attach a certificate/assurance that the product can be ordered with a sustainability certificate together with the application.</i>		
<i>If no, state the country where the wood raw material was harvested.</i>	Country of harvest:	
Is the wood species or origin in the CITES appendix for endangered species?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**4. The production phase**

Has an Environmental Product Declaration (EPD) been prepared?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, enclose the EPD (Environmental Product Declaration) or other environmental product declaration together with the application.</i>		

**5. Distribution of the completed product**

Describe the management of packaging for the distribution of the product <i>State whether any system for taking back or recycling packaging or any other specific return system is used.</i> <i>Specify the packaging material used and which system of producer responsibility for packaging the supplier is affiliated to.</i> <i>Enter the proportion of recycled material, if any, included in the packaging.</i>	Description of the packaging: No system for taking back or recycling of packaging. All products are in cardboard box.
Other information:	

## 6. Construction and usage phase

Are there any special requirements such as storage conditions etc. for the product during storage?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<i>If yes, describe:</i> To be stored indoor and at max temperature at 50°C			
Are there any special requirements for adjacent building products because of this product?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<i>If yes, describe:</i>			
Are there any operating/care instructions for the product?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<i>If yes, attach the documentation with the application.</i>			
Is the product energy labelled in accordance with the Energy Labelling Directive (2010/30/EU)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not relevant
<i>If yes, state class (G to A, A+, A++, A+++):</i>	Class:		

## 7. Waste management

Does the product require special measures to protect health and the environment in conjunction with demolition/dismantling?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, describe:</i>		
Is the product covered by the WEEE-directive 2012/19/EU (Swedish ordinance (2014:1075) on Producer Responsibility for electrical and electronic products when it becomes waste?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is it possible to re-use all or parts of the product? (can the product be reused within the product's expected lifetime)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, describe:</i>		
Is material recycling possible for all or parts of the product when it becomes waste?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If yes, describe:</i> All metal parts can be re-melted and used as new raw material All plastic parts can be re-grinded and used as new raw material		
Is energy recycling possible for all or parts of the product when it becomes waste?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the supplier have any restrictions and recommendations for reuse, material- or energy recycling or disposal?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If yes, specify which:</i> All metal parts can be re-melted and used as new raw material All plastic parts can either be re-grinded and used as new raw material or burned to give energy		
When the supplied product becomes waste, is it classified as hazardous waste?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, specify the waste code:</i> The Swedish waste ordinance (2011:927) <a href="https://www.notisum.se/rnp/sls/lag/20110927.htm">https://www.notisum.se/rnp/sls/lag/20110927.htm</a>	Waste code:	

## 8. Indoor environment

Has the product a critical moisture condition: <i>Information regarding whether critical moisture conditions leading to microbial growth apply for the material/product should be stated, but will not impact the assessment.</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, specify which:</i>		
Is the product intended for use indoors?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If yes, has emission data been produced for volatile organic compounds?</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, attach the report/certificate together with the application.</i>		
<i>If no, is there any motivation for why emission data for volatile organic compounds is not relevant for the product?</i>	Motivation: Mechanical product without any emission	
Is the product a chemical product intended for indoor use?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<i>If yes, has emission data been produced for volatile organic compounds?</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If yes, attach the report/certificate together with the application.</i>		
<i>If no, is there any motivation for why emission data for volatile organic compounds is not relevant for the product?</i>	Motivation: Mechanical product without any emission	

## Certificate of substance content and concentrations version. 4.0

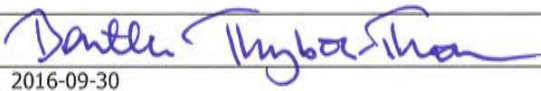
This certificate is required for the Recommended assessment level for chemical contents. This page should be printed to be signed and uploaded separately in PDF-format in connection with the application.

### Certificate of declaration of substance content

For the products specified below, with their stated article numbers, the following is certified: <i>Choose whether to certify alternative A or B.</i>	
<b>A</b> <input type="checkbox"/>	It is hereby certified that concentrations of the included substances <b>down to 0.01 weight%</b> have been reported, and that cadmium and mercury do not occur in the product.  or:  The substances included are reported in line with the instructions for the Declaration of Contents, BVB's reporting requirements 2016-1, and correspond to the reporting requirements for the <b>Recommended</b> level.
<b>B</b> <input checked="" type="checkbox"/>	It is hereby certified that concentrations of the included substances <b>down to 0.1 weight%</b> have been reported, and that cadmium and mercury do not occur in the product.  or:  The substances included are reported in line with the instructions for the Declaration of Contents, BVB's reporting requirements 2016-1, and correspond to the reporting requirements for the <b>Accepted</b> level.
For the products specified below, with their stated article numbers, the following is certified: <i>Choose whether to certify alternative C or D.</i>	
<b>C</b> <input checked="" type="checkbox"/>	It is hereby certified that the specified product/s do not contain specifically indicated substances and groups of substances in accordance with Table 4, Specifically indicated substances. These have not been added during production and have not been formed through reactions between the substances in the product.
<b>D</b> <input type="checkbox"/>	Unfortunately, we have to notify that the specified products contain specifically indicated substances in accordance with Table 4, Specifically indicated substances. Some of these substances have been added or been formed during reaction between the substances in the product, please see the Declaration of Contents.

**Table 4, Specifically indicated substances**

Substance group/Substance	Examples of properties
1. Arsenic and its compounds <sup>1</sup>	Toxic, Environmentally hazardous
2. Brominated flame retardants	Potentially PBT/vPvB, PBT/vPvB
3. PFOA (perfluorooctanoic acid)	Persistent, bioaccumulative, probable reproductive toxicity
4. PFOS (perfluorooctanesulfonates)	Potentially PBT/vPvB, PBT/vPvB
5. Organotin compounds	Potentially PBT/vPvB, PBT/vPvB, Toxic, Environmentally hazardous
6. Biocidal product applied on products (surface treatments) to provide a disinfectant or anti-bacterial effect.	Toxic, Environmentally hazardous

<i>Product identification: (designation and article number)</i>	013G2970; 013G2972; 013G2977; 013G2978; 013G2990; 013G2992
<i>State reference (name and version/date) that contains the actual Declaration of Contents:</i>	
<i>Person responsible for making declaration:</i>	Benthe Thyboe-Thomsen R&D Director
<i>Signature:</i>	
<i>Place and date (year, month, day):</i>	2016-09-30

<sup>1</sup> Arsenic, or arsenic compounds, are not permitted to be added to the product. Contamination of used raw materials is not permitted to exceed 10 mg/kg. The concentration limit is set based on regulatory requirements for soil quality to ensure that accepted products do not raise background concentrations through their use or disposal (for example; sludge from sewage treatment works Swedish Ordinance 1998:944, Section 20). The same concentration limits are found in the Swedish Environmental Protection Agency's general guidelines for less sensitive land use (MKM).

## Declaration of contents, BVB's declaration requirements, 2016-1

A complete declaration of contents in accordance with the instructions should be made for both products and chemical products. For products, minimum concentrations have to be reported as a weight% for the entire product. The contents can be provided in other documentation, if the reporting instructions are complied with, or alternatively supplemented so that they are in compliance. Reporting requirements for the Accepted level correspond to the requirements for "e-BVD2015".

For the Accepted and Recommended levels, classified substances are needed to be reported in the documentation if concentrations exceed limits (weight%) in accordance with *Table 5, Classified substances*. Those substances that are not included in Table 5 must be reported when concentrations of  $\geq 2\%$  occur.

Material and substance contains can be provided in intervals. Examples of accepted intervals are:  $\leq 1\%$ , 1-2.5%, 2.5-10%, 10-25%, 25-50%, 50-75%, 75-100%. In occasion of large intervals, state the reason for the variance and describe what materials/substances increase or decrease in proportion if the product, for example, comes in different sizes.

If classification is applied that is not covered by harmonized classification, this information requires to be reported in the comments column for that substance.

**Table 5, Classified substances**

Hazard class	Reporting limit	
	Accepted	Recommended
Carcinogenic categories 1A and 1B (H350)	$\geq 0.1\%$	$\geq 0.01\%$
Carcinogenic category 2 (H351)	$\geq 1\%$	$\geq 0.1\%$
Mutagenic categories 1A and 1B (H340)	$\geq 0.1\%$	$\geq 0.01\%$
Mutagenic category 2 (H341)	$\geq 1\%$	$\geq 0.1\%$
Reproductive toxicity, categories 1A and 1B (H360)	$\geq 0.3\%$	$\geq 0.03\%$
Reproductive toxicity, category 2 (H361)	$\geq 2\%$	$\geq 0.3\%$
Reproductive toxicity effects on or through breastfeeding (H362)	$\geq 0.3\%$	$\geq 0.03\%$
Endocrine disruptors <sup>1,2</sup>	$\geq 0.1\%$	$\geq 0.01\%$
PBT and/or vPvB <sup>3</sup>	$\geq 0.1\%$	$\geq 0.01\%$
Skin sensitizers (H317)	$\geq 1\%$	$\geq 0.1\%$
Respiratory sensitizers (H334)	$\geq 0.2\%$	$\geq 0.02\%$
Hazardous to aquatic environments, chronic category 1 (H410)	$\geq 2\%$	$\geq 0.25\%$
Ozone depleting substances (EUH 059 and H420)	$\geq 0.1\%$	$\geq 0.01\%$
Acute toxicity category 1 (H300, H310, H330, H301, H311 and/or H331)	$\geq 0.1\%$	$\geq 0.01\%$
Acute toxicity category 2 (H300, H310, H330, H301, H311 and/or H331)	$\geq 1\%$	$\geq 0.1\%$
Acute toxicity category 3 (H300, H310, H330, H301, H311 and/or H331)	$\geq 2\%$	$\geq 1\%$
Pure or compounds of cadmium (Cd)	$\geq 0.01\%$	$\geq 0.001\%$
Pure or compounds of lead (Pb)	$\geq 0.1\%$	$\geq 0.01\%$
Pure or compounds of mercury (Hg)	Contamination $\geq 2.5$ mg/kg (ppm) of active additives must always be reported.	
<sup>1</sup> Endocrine disruptors (EDS list)	$\geq 0.1\%$	$\geq 0.01\%$
<sup>2</sup> Endocrine disruptors (SIN list)		$\geq 0.01\%$
<sup>3</sup> PBT, vPvB (SIN list)	$\geq 0.1\%$	$\geq 0.01\%$
Candidate List	$\geq 0.1\%^*$	$\geq 0.01\%$
Other classifications or unclassified substances and material	$\geq 2\%$	$\geq 2\%$

\*Substances on the Candidate List have to be reported at component level.

### Descriptions of material

Substances should be reported with their CAS- or EC number. Exemptions for certain material can be performed in accordance with the following instructions.

Metals should always be reported together with their alloy number. Alternatively, substances comprising more than 0.01% of the alloy has to be specified in the documentation.

Plastics and rubber materials should be reported together with their name so that it is clearly which monomers that are included, for example, acrylonitrile butadiene styrene (ABS), polyethylene (PE), etc. Additives that have not formed polymers should always be reported in accordance with Table 5 (for example pigments, plasticizers, stabilizers, etc.). BVB always requires that compounds used as plasticizers is declared for PVC plastics ( $\geq 2\%$ ).

Plastics/polymers with descriptions in line with the following list are accepted without specification of monomers.

- Polycarbonate (pertains to bisphenol A based polycarbonates)
- Polyester (monomers must be specified for halogenated polyesters)
- Polyurethane (monomers must be specified for halogenated polyurethanes)
- Fiberglass reinforced epoxy resin laminates FR4 (pertains to tetrabromobisphenol A based polymers)

Other materials with the following descriptions are accepted without clarification or detailed description of their components as the materials normally consist of:

- Glass
- Concrete

Examples of designations of plastics/polymers and other material descriptions that require further clarification are:

- Dispersion polymerization
- Copolymer
- Thermoplastic elastomers (TPE)
- Thermoplastics
- MS polymers
- Mineral fillers

References can be given for composite products to other products (subcomponents) that have been assessed in BVB's system and which have been provided with a BVB ID.

Complex products can be referred to another product (subcomponent), which are estimated in BVB's systems and provided with BVB ID.