

Byggsvarubedömningen's guideline and information requirements for assessment of product, Version 2016-1.

These guidelines describe what information that Byggsvarubedömningen 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:	Radik Klasik, Radik VK,VKL,VKM,VKU. Radik Plan Klasik, Radik Line Klasik, Radik Plan VK,VKL,VKM. Radik Line VK,VKL,VKM. Radik Plan Vertial-M. Radik Line Vertikal-M.Radik Hygien . Radik Clean, Radik Hygien VK , Radik Clean VK .Radik Plan Premium ,RadikLine Premium, Radik Premium	
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>	EAN 8590822090836 8592651077507	
Product description: <i>On application, please attach a product data sheet or similar documentation.</i>	Steel panel radiators	
Type of product:	<input type="checkbox"/> Chemical product	<input checked="" type="checkbox"/> Article
Date (year, month, day) of preparation/revision:	20.11.2017	

Supplier/Manufacturer

Supplier:	Grad-in AB
Manufacturer if other than the supplier: <i>Voluntary information</i>	Korado a.s
Contact person:	Henrik Johansson
Address:	Honungsgatan 4B
E-mail:	henrik.johansson@grad-in.se
Phone number:	0340-646826

Supporting documentation

Has a declaration of performance, in line with the Swedish Construction Products Regulation, been prepared for the product?	<input checked="" type="checkbox"/> Yes	<input 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	Exemptions according to RoHS: Date:	

and date (year, month, day) when the exemption expires if time-limited:	
---	--

2. Declaration of contents:

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		75-100%			
brass		≤1%	blank plug	100	
polycarbonate		≤1%	top cover holder	100	
Acrylonitrile butadiene-styrene		≤1%	the cover of the side cover	100	
epoxypolyester		≤1%	paint		
polyacrylate		≤1%	paint		
titanium dioxide		≤1%	paint		
silver		≤1%	Solder	40	
copper		≤1%	Solder	30	
zinc		≤1%	Solder	28	
tin		≤1%	Solder	2	
ethylene propylene diene monomer (M-class) rubber		≤1%	"O" rings	100	

Are all substances reported in percentages down to 0.01% in Table 1, alternatively follow the declaration requirements for the level Recommended as described in "Declaration of contents, BVB's declaration requirements, 2016-1, given at the end of this document?" (Enables the assessment Recommended)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If not, does the declaration fulfill the instructions for the level Accepted, as described in "Declaration of contents, BVB's declaration requirements, 2016-1", given at the end of this document?	<input 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:	

Is the chemical composition different, for the product when applied (cured product) compared to the content at delivery? (applies to chemical products)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, specify the content of the cured product in Table 2.		

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:
---	-----------------

Does the product or any of its subcomponents 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
If yes, specify which substances in Table 1 together with the rest of the content of the product.		
State the date (year, month, day) for control the Candidate List.	Date: 20.11.2017	
The concentration is calculated at component level established on the principle "once a product, always a product". The Candidate List is available at: http://echa.europa.eu/sv/candidate-list-table .		

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
If yes, specify the material.	Material:	

3. Recycled raw material

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

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 (%) Recycled material 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
Steel	variable	variable	variable	

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>												
Has an active choice been made, regarding the electricity supplier, in order to promote electricity production from renewable energy sources?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No										
Describe the type of energy source, percentage of energy stemming from the renewable source, how long the agreement has been applied, electricity supplier, and for which part of the production it is valid for:												
<p>We contribute towards renewable sources within the framework of the legislative components of the unit price of electricity. Our supplier is LUMIUS, which specifies the origin of the electricity in its invoicing:</p> <table> <tr> <td>Coal</td> <td>12.79%</td> </tr> <tr> <td>Nuclear</td> <td>55.06%</td> </tr> <tr> <td>Gas</td> <td>0.23%</td> </tr> <tr> <td>Renewable energy sources</td> <td>8.93%</td> </tr> <tr> <td>Trading + renewable energy sources</td> <td>22.99%</td> </tr> </table>			Coal	12.79%	Nuclear	55.06%	Gas	0.23%	Renewable energy sources	8.93%	Trading + renewable energy sources	22.99%
Coal	12.79%											
Nuclear	55.06%											
Gas	0.23%											
Renewable energy sources	8.93%											
Trading + renewable energy sources	22.99%											

5. Distribution of the completed product

<p>Describe the management of packaging for the distribution of the product</p> <p><i>State whether any system for taking back or recycling packaging or any other specific return system is used.</i></p> <p><i>Specify the packaging material used and which system of producer responsibility for packaging the supplier is affiliated to.</i></p> <p><i>Enter the proportion of recycled material, if any, included in the packaging</i></p>	<p>Description of the packaging:</p> <p>Korado a.s. ensures meeting of the take-back and waste utilisation obligation via the authorised packaging company EKO-KOM. This company operates a nationwide system of collection, sorting, recycling and utilisation of packaging waste.</p> <p>77% of all packaging was recycled in 2016 in this system.</p>
Other information: Further information can be found in the annual summary of EKO-KOM.	

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>		
Radiators must be stored in dry enclosed storage areas. Storage of radiators in open and uncovered places is not permissible. Only vehicles with a		

covered cargo area may be used for transportation of radiators. The surface of the radiators may only be cleaned using regular water-soluble detergents, not extremely alkaline or acidic cleaning agents, with no abrasive additives and organic solvents. KORADO assumes no liability for failure to comply with these instructions.			
Are there any special requirements for adjacent building products because of this product?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<p><i>If yes, describe:</i></p> <p>Radiators can be used to heat residential buildings, offices and premises with a normal relative humidity. Use of radiators in rooms with a high relative humidity, in spaces with inadequate ventilation and in spaces with highly aggressive corrosion pursuant to DIN 55 900 such as swimming pools, car wash facilities and public toilets etc. is forbidden. Location of radiators in buildings which will not be heated immediately in the first year after having been built or modernisation of the heating system is forbidden. Radiators must be installed in a closed hot water heating system made of black steel, copper or plastic pipes with a diffusion barrier. The system must be fitted with expansion and safety equipment. Before setting radiators into operation, it is necessary to double-check tightening of the blinding plugs and valves with the correct tightening torque. The following main water quality characteristics must be complied with: pH range 8.5 – 9.5 (applies to systems which do not include aluminium), overall water hardness (content of Ca + Mg ions) up to 1 mmol/l, salinity in the range 300-500 µS/cm and oxygen content max. 0,1 mg/l. The heating system must be constantly filled with water. In the event of any defect, the repair time must be reduced to the absolute minimum and once finished, the heating system must be refilled and bled. Radiators must be regularly bled – be careful not to get burned by hot water spraying out of the valve.</p>			
Are there any operating/care instructions for the product?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<p><i>If yes, attach the documentation with the application.</i></p> <p>See the annex "Operating instructions for KORADO radiators"</p>			
Is the product energy labelled in accordance with the Energy Labelling Directive (2010/30/EU)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" 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
If yes, describe:		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, describe: The product can be reused if it is not damaged and if the conditions specified in the instruction manual for use of KORADO radiators are met.		
Is material recycling possible for all or parts of the product when it becomes waste?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, describe: The main bodies of our radiators are made of steel. It is advisable to separate smaller parts from other materials and recycle them separately. If the radiator was filled with utility water with chemical additives, it is advisable to flush the remains of this from the radiator before its handover for recycling.		
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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, specify which:		
When the supplied product becomes waste, is it classified as hazardous waste?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, specify the waste code: The Swedish waste ordinance (2011:927) https://www.notisum.se/rnp/sls/lag/20110927.htm	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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, specify which: Use is prohibited in rooms with a high relative humidity, in rooms which are not sufficiently ventilated and in rooms with a high level of corrosivity pursuant to DIN 55 900, such as swimming pools, car washes, public toilets etc. It is also prohibited to place them in buildings which will not be immediately heated in the first year after having been built or modernised.		
Is the article (or chemical product) intended for indoor use?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, has emission data been produced for volatile organic compounds?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, attach the report/certificate together with the application.		
If no, is there any motivation for why emission data for volatile organic compounds is not relevant for the product?	Motivation: No such compounds are released.	

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: Choose whether to certify alternative A or B.	
A <input type="checkbox"/>	It is hereby certified that concentrations of the included substances down to 0.01 weight% 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 Recommended level.
B <input checked="" type="checkbox"/>	It is hereby certified that concentrations of the included substances down to 0.1 weight% 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 Accepted level.
For the products specified below, with their stated article numbers, the following is certified: Choose whether to certify alternative C or D.	
C <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.
D <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 ¹	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

¹ 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).

Product identification: (designation and article number)	Radik Klasik, Radik VK,VKL,VKM,VKU. Radik Plan Klasik, Radik Line Klasik Radik Plan VK,VKL,VKM; Radik Line VK,VKL,VKM; Radik Plan Vertial-M,Radik Line Vertikal-M, Radik Hygien . Radik Clean, Radik Hygien VK , Radik Clean VK .Radik Plan Premium ,RadikLine Premium, Radik Premium
State the reference document (name and version/date) that contains the actual Declaration of Contents:	-
Person responsible for the declaration:	Martin Karlicek Area Sales Manager
Signature:	
Place and date (year, month, day):	12.12.2017

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, concentrations have to be reported as a weight% for the entire product as minimum. 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 ^{1, 2}	$\geq 0.1\%$	$\geq 0.01\%$
PBT and/or vPvB ³	$\geq 0.1\%$	$\geq 0.01\%$
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)	≥ 0.1%	≥ 0.01%
Pure or compounds of mercury (Hg)	Contamination ≥ 2.5 mg/kg (ppm) of active additives must always be reported.	
¹ Endocrine disruptors (EDS list)	≥ 0.1%	≥ 0.01%
² Endocrine disruptors (SIN list)		≥ 0.01%
³ PBT, vPvB (SIN list)	≥ 0.1%	≥ 0.01%
Candidate List	≥ 0.1%*	≥ 0.01%
Other classifications or unclassified substances and material	≥ 2%	≥ 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 requirements specified above (for example pigments, plasticizers, stabilizers, etc.).

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)
- MS-polymer (refers to silane modified polyether)

Note that if the plastic/polymer contains additives (such as pigments, plasticizers, stabilizers, etc.), they shall always be reported in accordance with the declaration requirements.

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

- Glass (any content of lead needs to be reported for the assessment level recommended, e.g. relevant for recycled glass)
- Concrete (polymers included in the concrete are reported separately)

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

- Polymer dispersion
- Copolymer
- Thermoplastic elastomers (TPE)
- Thermoplastics
- MS polymers
- Mineral fillers

- Silanes: The type of polymer needs to be given, e.g. if it refers to a silane/silyl modified polyether or polyurethane.
- PVC: for contents above 2%, plasticizers always needs to be given with CAS no. Concentration of plasticizers below 2%, needs to be declared according to declaration requirements specified in Table 5. If no plasticizer is declared, the reason for that needs to be given.
- EPDM and SBR rubber: for levels above 2%, mineral/paraffin oil always needs to be given with CAS no. As an alternative, the maximal PAH content in the material can be given. For products intended to be used in contact with skin, the maximum content of PAH content shall be reported.
- The PAH content in the material needs to be reported for the assessment level recommended when asphalt/bitumen is present above 10% in the product.

For complex products, references to subcomponents which are assessed in BVB's systems with a specified BVB ID, can be used.