



# Properties criteria - BASTA

Option 1 - according to KIFS 2005:7

VERSION 2011:B

VALID FROM 30/06/2011

# Introduction

The aim of the BASTA system is to phase out substances with particularly hazardous properties from construction products. Products that are registered in the BASTA system may not contain substances with properties according to agreed criteria, at concentrations equal to or above specified limits.

The supplier must also meet a number of requirements as to be allowed to register products in the system:

- the supplier confirms that any of their products registered in the BASTA-database meet the properties criteria at all times.
- the supplier can present documentation verifying the properties of their products registered in the BASTA-database.
- the supplier has an organisation with a clear distribution of responsibility for all information upon which their registration in the BASTA-database is based.
- the supplier has the appropriate expertise available for dealing with the terms of qualification for registration of products in the BASTA-database.

The criteria have been based on the REACH Regulation (Regulation (EC) No. 1907/2006), Regulation on the classification, packaging and labelling of dangerous substances (Regulation (EC) No. 1272/2008) and on the database for risk reduction of chemicals PRIO from the Swedish National Chemicals Inspectorate.

Concentrations are to be considered for the product in the form it is delivered to a building site or equivalent. Chemicals that have been used in manufacturing but are not present in the delivered product do not need to be considered. If not stated otherwise the assessment shall be made considering the total concentration of different substances with the same property.

For a complex article that consists of several parts, the basis for calculations should be the weight of the individual part that contains the substance, not the total weight of the complex article.

The properties criteria are specified by one column for unwanted **properties/substances**, a **definition** of the property and the accepted concentration limit. In addition there are footnotes with additional information. There is also a list of risk phrases used in this document

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# Properties criteria in the BASTA-register

Properties (substances)	Definition according to Alternative 1	Concentration limit (by weight) <sup>1), 2)</sup> <sub>11)</sub>	Summation <sup>10)</sup>	Cross refer. Alt. 2
<b>1. Carcinogenic</b>	a) Substances with properties according to hazard class of carcinogenic in category 1 or 2 <sup>3)</sup> (R45, R49)	< 0,1%	—	H350
	b) Substances with properties according to hazard class of carcinogenic in category 3 <sup>3)</sup> (R40)	< 1%	—	H351
<b>2. Mutagenic</b>	a) Substances with properties according to hazard class of mutagenic in category 1 or 2 <sup>3)</sup> (R46)	< 0,1%	—	H340
	b) Substances with properties according to hazard class of mutagenic in category 3 <sup>3)</sup> (R68)	< 1%	—	H341
<b>3. Toxic to reproduction</b>	a) Substances with properties according to hazard class of toxic to reproduction in category 1 or 2 <sup>3)</sup> (R60 and/or R61)	< 0,5%	—	H360
	b) Substances with properties according to hazard class of toxic to reproduction in category 3 <sup>3)</sup> (R62 and/or R63)	< 5%	—	H361
<b>4. Effect during lactation</b>	Substances with properties according to hazard class of: may cause harm to breastfed babies (R64)	< 0.1%	—	H362
<b>5. Endocrine disrupting</b>	While awaiting criterias there may be no use of substances included in priority group 1 according to EU "candidate list of 553 substances" European Commission DG Environment (2000), Annex 1 <sup>4)</sup> .	< 0.1%	—	
<b>6. Very persistent and very bio accumulative organic compound</b>	Substances with 1) a half-life > 60 days in seawater or freshwater or > 180 days in seawater or freshwater sediment or > 180 days in soil and 2) BCF (Bio Concentration Factor) >5000	< 0,1%	Yes	
<b>7. Persistent, bio accumulative and toxic organic compound</b>	Substances with 1) a half-life > 60 days in seawater or >40 days in freshwater or > 180 days in seawater sediment or >120 days in freshwater sediment and 2) BCF (Bio Concentration Factor) >2000 and 3) Chronic NOEC < 0.01mg/l or < 30 mg/kg food or CMR or classified T; R48 or XN; R48 or R64	< 0,1%	Yes	
<b>8. Potentially persistent, bio accumulative and toxic organic compound</b>	<i>There is for the time being no generally confirmed definition for a potentially persistent, bioaccumulative and toxic organic compound. The criteria document will be amended when such definition is at hand.</i> <sup>5)</sup>			
<b>9. Lead (Pb)</b>	Pure substances or compounds of lead	< 0,1%	Yes	
<b>10. Mercury (Hg)</b>	Pure substances or compounds of mercury	Total Ban <sup>6)</sup>	Yes	
<b>11. Cadmium (Cd)</b>	Pure substances or compounds of cadmium	< 0,01%	Yes	
<b>12. Dangerous to the ozone layer</b>	Ozon Depletion Potential (ODP) > 0 (R59)	< 0,1%	—	EUH059, H420

Properties (substances)	Definition	Concentration limit (by weight) <sup>1), 2)</sup>	Summa-tion <sup>10)</sup>	Cross refer. Alt. 2	
13. Sensitising <sup>7)</sup> a)	Substances with properties according to hazard class of causing sensitisation by inhalation and/or on skin contact <sup>3)</sup> (R42, R43)	< 1%		H334 H317	
14. Very toxic	b)	Substances with properties according to hazard class of very toxic on inhalation, on skin contact and/or if swallowed <sup>3)</sup> (R26, R27, R28)	Yes	H330 H310 H300	
	a)	Substances with properties according to hazard class of very toxic: danger of serious irreversible damage to health by inhalation, on skin contact or if swallowed <sup>3)</sup> (R39 in combination with R26, R27 and/or R28)		H331 H311 H301	
15. Toxic	b)	Substances with properties according to hazard class of toxic on inhalation, on skin contact and/or if swallowed <sup>3)</sup> (R23, R24, R25)	Yes	H370	
		Substances with properties according to hazard class of toxic: danger of serious irreversible damage to health by inhalation, on skin contact or if swallowed <sup>3)</sup> (R39 in combination with R23, R24 and/or R25)			
16. High chronic toxicity	Substances with properties according to hazard class of toxic: danger of serious irreversible damage to health in prolonged exposure by inhalation, on skin contact or if swallowed <sup>3)</sup> (R48 in combination with R23, R24 and/or R25).	< 10%		H372	
17. Volatile organic compounds <sup>7)</sup>	Initial boiling point <250 °C measured at a standard pressure of 101,3 kPa <b>and</b> has properties according to the criteria for risk phrases: R20 (harmful by inhalation), <b>or</b> R23 (toxic by inhalation), <b>or</b> R65 (harmful: may cause lung damage if swallowed), <b>or</b> R67 (vapours may cause drowsiness and dizziness), <b>or</b> R48 together with R20 (harmful: danger of serious damage to health by prolonged exposure through inhalation).	< 10% <sup>9)</sup>	Yes	H332 H331 H330 H304 H336 H373 H371	
18. Dangerous for the environment	a)	Substances with properties according to hazard class of dangerous: very toxic to aquatic organisms <sup>3)</sup> (R50)	The L(E)C <sub>50</sub> value specify the concentration limit <sup>8)</sup>	Yes	H400
	b)	Substances with properties according to hazard class of dangerous: very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment <sup>3)</sup> (R 50/53)	The L(E)C <sub>50</sub> value specify the concentration limit <sup>8)</sup>	Yes	H410
	c)	Substances with properties according to hazard class of dangerous: may cause long-term adverse effects in the aquatic environment <sup>3)</sup> (R53)	< 25%	Yes	H413
	d)	Substances with properties according to hazard class of dangerous: toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment <sup>3)</sup> (R 51/53)	< 25%	Yes	H411

## NOTES

- 1) In cases where a lower concentration is stated in appendix IV to the Council Directive on classification, labelling and packaging (1272/2008/EG), the stated concentration applies.
- 2) In cases where there are lower concentrations stated in appendix IV to the council directive on Persistent Organic Pollutants (1195/2006/EG), the stated concentration applies.
- 3) In accordance with Council Directive 67/548/EEC. The assessment is to be based on all relevant data on the hazardousness to health and the environment of the product. The criteria are directly applicable when data are obtained from information requirements described in article 13 to regulation (EC) no. 1907/2006 (REACH). If for a given property that is hazardous to health or the environment, there are data from several studies which, according to the criteria, would lead to differing classification, the data that result in the strictest classification are to be used provided they are of good scientific quality.
- 4) European Commission DG Environment (2000). Towards the establishment of a priority list of substances for further evaluation of their role in endocrine disruption. Final report,  
[http://ec.europa.eu/environment/docum/pdf/bkh\\_main.pdf](http://ec.europa.eu/environment/docum/pdf/bkh_main.pdf)  
Annex 1. Candidate list of 553 substances,  
[http://ec.europa.eu/environment/docum/pdf/bkh\\_annex\\_01.pdf](http://ec.europa.eu/environment/docum/pdf/bkh_annex_01.pdf)
- 5) The criterias for potentially PBT according to PRIO ([www.kemi.se](http://www.kemi.se)) can, in cases where it indicates no potential and where no other data exist, be used as a base for the PBT-classification.
- 6) In accordance with the Swedish directive (1998:944) there is a general Swedish ban on mercury with specified exklusions. Low concentrations of mercury that are not intentionally added in any stage thus fall outside the prohibition. With low levels of mercury refers in BASTA to a maximum occurring concentration of 2.5 mg per kg.
- 7) Criteria for sensitising substances and volatile organic compounds are included to achieve a healthy working environment at the building site. The initial boiling point is set in accordance with directive 2004/42/EC with the concentration limit in agreement with the paint, adhesive and sealants trade.) The concentration limits are according to Directive 1999/45/EC Annex II.
- 8) The concentration limits are specified in the tables 13a and 14 in KIFS 2005:7. Concentration limits are set with the objective to have BASTA-registered products not carrying any risk labelling toxic or dangerous for the environment.
- 9) In the case that lower concentrations are stipulated for paints and lacquer in Council Directive 2004/42/EG, they should apply.
- 10) Summation of the concentrations of various substances with similar characteristics.
- 11) For a complex article that consists of several parts, the basis for the calculations should be the weight of the individual part that contains the substance, not the total weight, or the total weight of the complex article. An article is defined, REACH as an "object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition (Article 33).

## **N.B.**

The above criteria will be reviewed at regular intervals with the aim to have substances with above properties to be totally phased out. Revisions may be made to adapt them to new knowledge, requirements in the world around and objectives in the area of chemicals. The criteria will be harmonised with future changes in the European REACH system (Registration, Evaluation, Authorisation of Chemicals), regulation (EC) No. 1907/2006 and CLP (Regulation (EC) No. 1272/2008).

## **Risk phrases used in these criteria**

R20	Harmful by inhalation
R 23	Toxic by inhalation
R 24	Toxic in contact with skin
R 25	Toxic if swallowed
R 26	Very toxic by inhalation
R 27	Very toxic in contact with skin
R 28	Very toxic if swallowed
R 39	Danger of very serious irreversible effects
R 40	Limited evidence of carcinogenic effect
R 42	May cause sensitisation by inhalation
R 43	May cause sensitisation by skin contact
R 45	May cause cancer
R 46	May cause heritable genetic damage
R 48	Danger of serious damage to health by prolonged exposure
R 49	May cause cancer by inhalation
R 50	Very toxic to aquatic organisms
R 53	May cause long-term adverse effects in the aquatic environment
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R 50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R 59	Dangerous for the ozone layer
R 60	May impair fertility
R 61	May cause harm to the unborn child
R 62	Possible risk of impaired fertility
R 63	Possible risk of harm to the unborn child
R 64	May cause harm to breastfed babies
R 65	Harmful: may cause lung damage if swallowed
R 67	Vapour may cause drowsiness and dizziness
R 68	Possible risk of irreversible effects

Information about construction products that meet the properties criteria are found on the web-site [www.bastaonline.se](http://www.bastaonline.se)

E-mail address is [bastaonline@ivl.se](mailto:bastaonline@ivl.se)

You can also contact IVL Swedish Environmental Research Institute, Box 21060, SE-100 31 Stockholm, Sweden. Telephone +46 8 598 563 00 for more information.



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