

Munich, 13 August 2019

Material Certificate of Conformity (M-CoC)

- European Directive 2006/66/EC (Batteries)
- European DIRECTIVE 2011/65/EU (RoHS II), amended by Directive (EU)2015/863
- European REACH REGULATION (EC)1907/2006
- PULS Position on the Demand for "Halogen-Free Products"

The M-CoC for combined Battery module with assembled battery consists of:

- M-CoC for Battery module without assembled battery
- M-CoC for Battery

see assignment Table 1.

PULS Sales Number / Model Designation	Consists of:	
	Battery module without assembled battery	Battery
UZX12.071	UZO12.07	UZX12.071
UZX12.072	UZO12.072	UZX12.071
UZX12.261	UZO12.26	UZX12.261
UZX24.071	UZO24.071	UZX12.071
UZX24.121	UZO24.121	UZX12.121

Example

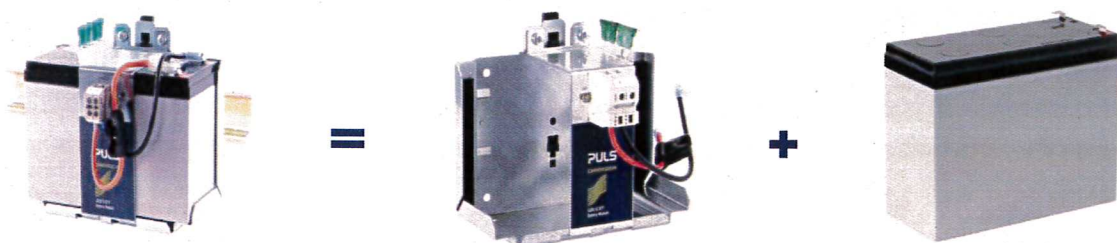


Table 1

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PULS Sales-number / Model Designation
UZO12.07
UZO12.072
UZO12.26
UZO24.071
UZO24.121

Table 1

European DIRECTIVE 2011/65/EU (RoHS II)

PULS Standard Units listed in table 1 meet regulations regarding the restriction in the use of certain hazardous substances in electrical and electronic equipment within the Directive 2011/65/EU (RoHS II) of the European Parliament and of the Council of 8 June 2011.

The RoHS II conformity of these units is valid since before June 2011. For PULS Standard Units launched after June 2011, full compliance is already in place from the market launch date.

PULS Standard Units listed in table 1 meet the restricted substances referred to in Article 4 (1) and maximum concentration values by weight of homogeneous materials according to Annex II.

Annex II to the Directive 2011/65/EU was amended by DIRECTIVE (EU) 2015/863 of 31 March 2015 of the European Parliament and of the Council. PULS confirms compliance with these additional substance restrictions.

Applications exempted from the restriction in Article 4(1) according to Annex III are:

none

European REACH Regulation (EC) 1907/2006

As a manufacturer of electronic power supplies, PULS GmbH is a "downstream user" with regards to the Regulation for the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Therefore, PULS is providing information only on non-chemical articles (products). In principle, PULS GmbH is not subject to any obligation to register or to compile material safety data sheets.

PULS hereby confirms that its electronic power supplies comply with the legal obligations regarding Article 33 and the restrictions outlined in Annex XVII of the European REACH Regulation 1907/2006 which came into force on 01.06.2007.

PULS and its suppliers will continuously review the actual ECHA "Candidate List" for additions and updates and act accordingly in compliance with REACH regulations. The actual candidate list is provided on the European Chemicals Agency website at:

<https://echa.europa.eu/candidate-list-table>

The information requirement of REACH Article 33 is met by considering the ECJ-Judgment (Case C-106/14) for calculating the SVHC content in articles.

The SVHC weight calculation is done in recommendation according to the - ECHA Guidance on requirements for substances in articles.

For PULS Standard Components listed in table 1 there is to-date no evidence within our supply chain that any of our products contain articles with a substance which is listed in the ECHA "candidate list" SVHC (Article 59) with a weight of >0.1%.

Demand for "Halogen-Free Products"

Concerning the requirement for halogen-free design of products, PULS GmbH aligns with the ZVEI Positioning Paper detailing the Demand for "Halogen-Free Products" in the Electrical and Electronics Industry (Edition: Oct. 2010).

Based on the above-mentioned paper, PULS issued the following "Halogen-free" affirmations regarding materials contained in PULS Standard Units listed in table 1:

- Plastic or chemical materials (e.g. housing components, sliders, connectors, terminals, glue, heat conductive paste, etc.) do not contain halogens.
- All other material shall contain halogens according to IEC 61249-2-21, with max. 1500 ppm halogens in total (max. 900 ppm bromine; max. 900 ppm chlorine) as far as is possible within the state of the art and/or economic viability.

**ZVEI = German Electrical and Electronic Manufacturers' Association*

Name and address of the
responsible manufacturer

**PULS GmbH
Elektrastraße 6
81925 Munich
Germany**


i. V. Mr. Friedrich Haunschild, Expert Material Declaration
name, function, signature

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PULS Sales-number / Model Designation
UZH12.051
UZH12.071
UZH12.121
UZH12.261

Table 1

European Directive 2006/66/EC (Batteries)

PULS **VRLA Industrial Batteries** listed in *table 1* come under the requirements of DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on batteries and accumulators and waste batteries and accumulators.

It is a requirement of the Batteries Directive that all batteries, including VRLA Industrial Batteries, must be collected and sent for recycling at the end-of-life.

PULS offers its customers the service of a free take-back of all waste batteries at all PULS sales offices and also at the following address:

PULS GmbH Return Centre
c/o Kühne & Nagel (AG & Co.) KG
Bornaer Str. 205
09114 Chemnitz
Germany

European Directive 2011/65/EU (RoHS II)

PULS VRLA Industrial Batteries listed in *table 1* do not fall under the scope of DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2 Directive).

Paragraph (Recital) 14 of the above Directive states:

"This Directive should apply without prejudice to Union legislation on safety and health requirements and specific waste management legislation, in particular Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and Regulation (EC) No. 850/2004.

Paragraph (Recital) 29 of Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators states:

"Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment does not apply to batteries and accumulators used in electrical and electronic equipment."

European REACH Regulation (EC) 1907/2006

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The SVHC weight calculation is done in recommendation according to the - ECHA Guidance on requirements for substances in articles.

Within PULS supply chain the company received the following REACH Article 33 information that its devices (listed in table 1) contain (a) component(s) with the following SVHC (Article 59) listed substances >0.1% by weight.

Article Group	SVHC listed substances > 0.1 % by weight	EC #	CAS #
Battery	Lead (about between 60-70%)	231-100-4	7439-92-1
From PULS supply chain there is currently no information that material safety data sheets must be made available for units listed in table 1.			

Table 2

PULS will replace SVHC listed substances with alternative solutions as far as is technically and economically feasible.

Demand for "Halogen-Free Products"

Concerning the requirement for halogen-free design of products, PULS GmbH aligns with the ZVEI Positioning Paper detailing the Demand for "Halogen-Free Products" in the Electrical and Electronics Industry (Edition: Oct. 2010).

Based on the above-mentioned paper, PULS issued the following "Halogen-free" affirmations regarding materials contained in PULS Standard Units listed in table 1:

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- All other material shall contain halogens according to IEC 61249-2-21, with max. 1500 ppm halogens in total (max. 900 ppm bromine; max. 900 ppm chlorine) as far as is possible within the state of the art and/or economic viability.

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