

 ASSOCIATION POUR L'ASSURANCE QUALITÉ DES FABRICANTS DE BRACELETS CUIR		<b>DOC nb</b> LIS007_04
		<b>Replace</b> LIS007_03
<b>AQC RESTRICTED SUBSTANCES LIST FOR METALLIC PARTS</b>		
<b>Application date: 14Jan22</b>		Page 1/5
Written by	Quality review (signature/date)	Process owner (signature/date)
	 Jan 10, 2022	 Jan 11, 2022
Sébastien Bagot / Technical and Quality Manager	David Astier / QA&QC Officer	Sébastien Bagot / Technical and Quality Manager

### Change log

Version	Date	Modification
01	01Mar17	Creation
02	12Feb18	Addition of the table for AQC Allergen Reduction program at the end of the document Addition of Cobalt release (w/o limit - for information only)
03	18Dec20	Addition of : <ul style="list-style-type: none"> <li>• Scope of the document</li> <li>• Regulatory considerations</li> <li>• General requirements for laboratory testing</li> </ul> Precision of EDX expected data Review of Lead limit (Prop65) from 300 mg/kg to 100 mg/kg Review of method for heavy metals and Chromium (VI)
04	14Jan22	Annual revision without modification

### Associated document (level 1)

Document	Title
MAQ016	Processus sheet – Chemical Compliance Components & Bracelets

### Associated document (level 2)

Document	Title
-	-

### Associated document (level 3)

Document	Title
-	-

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### Scope of the document

This document defines the list of restricted dangerous chemical substances and testing requirements for metallic inserts, spring bars and emblems in the context of leather bracelet as specified by AQC.

For the definition of the limits present in this Restricted Substances list (RSL), AQC takes into consideration all the current international regulations for dangerous substances available and select the strictest limit. The list of chemicals present in this document has been selected on the basis of a risk-based approach completed by AQC experience and knowledge.

International regulations mentioned in this document are:

Abbreviation	Regulation	Country	Comment
GB 28480	Adornment -- Provision for limit of baneful elements	China	-
Proposition 65	Safe Drinking Water and Toxic Enforcement Act	USA (California)	-
REACH XVII	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)	EU	Annex XVII Substances subject to restriction
RoHS II	Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment	EU	equivalent to the requirement of annexe 2.18 of ORRChim ordinance (Switzerland)

### Specific AQC consideration

In the column for regulation, "AQC" stands for extra-regulatory limit set by AQC in a pro-active way:

- "AQC" alone is applied for substances without known regulation  
For some substances, AQC performs testing without limit (for information) or with a limit concentration
- (AQC) after a regulation indicate that the scope has been enlarged to textile by AQC or that the limit applied by AQC is lower than requested by the more stringent regulation.

### AQC limit for REACH/OChim SVHCs

Article 33(1) of REACH requires that a supplier of articles containing a SVHC included in the Candidate List for authorization in a concentration above 0.1% (w/w) has to provide relevant safety information to the recipients of these articles (Watch Brands). Upon request of a consumer, Watch Brands have to provide relevant safety information about the SVHC to this consumer (Article 33(2) of REACH).

This requirement is also present in Swiss ordinance OChim, article 71.

There is no regulatory requirement to limit SVHC content in articles to 1'000 mg/kg. Nevertheless, AQC Bracelet manufacturers limit all SVHC listed substances to 1'000 mg/kg in bracelets and components.

### AQC limit for Proposition 65

For substances listed in the Proposition 65 California, AQC limits take into account the limit in articles present in the case law of Proposition 65 and more precisely the limits indicated in the reformulation injunctions of settlements and judgements.

AQC considers in case law: leather articles and related articles to the watch bracelet but also any other article with a related exposure scenario (skin contact).

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For substances without any indication of a limit in articles, AQC performs testing of a risk-based selection of substances potentially used for leather production and keeps available for Watch Brands all the data as a support for labelling decision.

General requirements for laboratory testing

- Sample picture

Picture of metallic inserts or spring bars received by the laboratory have to be taken **without** plastic bag.

- Sample preparation

Samples are prepared as indicated in the methods requested by AQC.  
AQC does not have further specific requirements.

**AQC RESTRICTED SUBSTANCES LIST FOR METALLIC PARTS**

**TITANIUM**

Substance family	Substance Name	Abbr.	CAS Number	AQC limit	Regulation	AQC required Method
ID	Elements composition	-	several	for information Indication of Titanium grade(s)	AQC	EDX
Heavy Metals	Cadmium	Cd	7440-43-9	100 mg/kg	RoHS II	EN 62321-5
	Lead	Pb	7439-92-1	100 mg/kg	Prop65 (2012-00629)	EPA 3050B
	Mercury	Hg	7439-97-6	1000 mg/kg	RoHS II	EN 62321-4
	Arsenic	As	7440-38-2	1000 mg/kg	GB 28480	EN 62321-5 adapted
Oxidized metal	Chromium (VI)	CrVI	18540-29-9	1000 mg/kg	RoHS II	EN 62321-7

Only if Nickel detected by EDX :

Allergenic Metal release	Nickel	Ni	7440-02-0	0.88 µg/cm <sup>2</sup> /week	REACH XVII entry 27	EN ISO 1811+A1
	Cobalt	Co	7440-48-4	for information (in µg/cm <sup>2</sup> /week)	AQC	EN ISO 1811+A1 adapted

**STAINLESS STEEL**

Substance family	Substance Name	Abbr.	CAS Number	AQC limit	Regulation	AQC required Method
ID <sup>1</sup>	Elements composition	-	-	for information Indication of stainless-steel type(s)/family	EN 10027 AISI (US)	EDX
Heavy Metals	Cadmium	Cd	7440-43-9	100 mg/kg	RoHS II	EN 62321-5
	Lead	Pb	7439-92-1	100 mg/kg	Prop65 (2012-00629)	EPA 3050B
	Mercury	Hg	7439-97-6	1000 mg/kg	RoHS II	EN 62321-4
	Arsenic	As	7440-38-2	1000 mg/kg	GB 28480	EN 62321-5 adapted
Oxidized metal	Chromium (VI)	CrVI	18540-29-9	1000 mg/kg	RoHS II	EN 62321-7
Allergenic Metal release	Nickel	Ni	7440-02-0	0.88 µg/cm <sup>2</sup> /week	REACH XVII entry 27	EN ISO 1811+A1
	Cobalt	Co	7440-48-4	for information (in µg/cm <sup>2</sup> /week)	AQC	EN ISO 1811+A1 adapted

<sup>1</sup> Upon specific request, the precise type of stainless steel could be determined by the performance of Sulfur and Carbon titration by ISO 15350.

<sup>2</sup> For spring bars, EDX is performed on the 4 parts (tube, mobile tip, lug, spring)

**MASSIVE BRASS, PLATED-BRASS**

Substance family	Substance Name	Abbr.	CAS Number	AQC limit	Regulation	AQC required Method
ID	Elements composition	-	-	for information Check of Copper/zinc alloy	AQC	EDX
Heavy Metals	Cadmium	Cd	7440-43-9	100 mg/kg	RoHS II	EN 62321-5
	Lead	Pb	7439-92-1	100 mg/kg	Prop65 (2012-00629)	EPA 3050B
	Mercury	Hg	7439-97-6	1000 mg/kg	RoHS II	EN 62321-4
	Arsenic	As	7440-38-2	1000 mg/kg	GB 28480	EN 62321-5 adapted
Oxidized metal	Chromium (VI)	CrVI	18540-29-9	1000 mg/kg	RoHS II	EN 62321-7
Allergenic Metal release	Nickel	Ni	7440-02-0	0.88 µg/cm <sup>2</sup> /week	REACH XVII entry 27	EN ISO 1811+A1
	Cobalt	Co	7440-48-4	for information (in µg/cm <sup>2</sup> /week)	AQC	EN ISO 1811+A1 adapted



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**AQC ALLERGEN REDUCTION PROGRAM**

Allergenic Substances (H317)	Abbreviation	CAS Number	Comment
<b>Metals: Nickel</b>	<b>Ni</b>	<b>7440-02-2</b>	<b>for parts not in contact with skin</b>
<b>Metals: Cobalt</b>	<b>Co</b>	<b>7440-48-4</b>	<b>AQC requirement – For information</b>
Chromium (VI)	Cr(VI)	18540-29-9	

Limits for substances in bold type are AQC internal requirements tighter than requested by the current regulation.









# LIS007\_04 AQC RSL for metallic parts

Final Audit Report

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