

## **New Classification for Cobalt Oxide; Cobalt(II) 4-oxopent-2-en-2-olate; Cobalt Oxalate; Cobalt Propionate; Cobalt, Borate Propionate Complexes; Cobalt Bis(2-Ethylhexanoate); Cobalt, Borate 2-Ethylhexanoate Complexes**

### **Industry Actions for Responsible Assessment and Classification of Cobalt Compounds**

The members of the Cobalt Institute (CI) and the Cobalt REACH Consortium (CoRC) have taken the decision to **self-classify** the following substances under the UN Globally Harmonized System for Classification and Labelling of Chemicals (UN GHS) as reproductive toxicants (**Repr. 1B; H360F**):

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|---|---|
| • Co Oxide                              | EC No. 215-154-6; CAS No. 1307-96-6   |
| • Co(II) 4-oxopent-2-en-2-olate         | EC No. 234-855-6; CAS No. 14024-48-7  |
| • Co oxalate                            | EC No. 212-409-3; CAS No. 814-89-1  |
| • Co propionate                         | EC No. 216-333-1; CAS No. 1560-69-6   |
| • Co, borate propionate complexes       | EC No. 295-033-2; CAS No. 91782-61-5  |
| • Co bis(2-ethylhexanoate)              | EC No. 205-250-6; CAS No. 136-52-7;<br>EC No. 237-015-9; CAS No. 13586-82-8 |
| • Co, borate 2-ethylhexanoate complexes | EC No. 295-032-7; CAS No. 91782-60-4  |

with the following comments,

- Using the UN GHS mixture rules, it is not foreseen to implement a specific concentration limit. Instead, the generic concentration limit should apply, resulting in all mixtures containing  $\geq 0.3\%$  of the above cobalt compounds carrying the same Repr. 1B classification.
- Companies are responsible for their own self-classification, labelling and communication within their supply chains (e.g. Safety Data Sheets), as appropriate for their products.

An updated classification table (including self-classifications) for these substances is listed at the end of this document.

## **BACKGROUND**

There are 26 cobalt substances registered by the Cobalt REACH Consortium under the EU REACH<sup>1</sup> Regulation, with five of these substances<sup>2</sup> having harmonised classifications under the EU CLP<sup>3</sup> Regulation as Repr. 1B; H360F (may damage fertility); and a sixth substance (Co metal) proposed for classification as Repr. 1B; H360F. Considering the existing reproductive toxicity classifications (indicating a potential hazard at high doses), the CI and CoRC have developed a read-across and grouping approach with the aim of predicting the

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<sup>1</sup> Registration, Evaluation, Authorisation and Restriction of Chemicals

<sup>2</sup> Five 'soluble cobalt salts': Co sulphate, Co dichloride, Co dinitrate, Co carbonate, Co diacetate (and respective hydrated forms)

<sup>3</sup> Classification, Labelling and Packaging

potential for systemic bioavailability of the remaining cobalt compounds. The prediction is based on *in vitro* measurements of surrogate bioavailability (“bioaccessibility”) and short-term repeated-dose *in vivo* data. Substances are then grouped according to their toxicological properties, with classifications read across within a group, avoiding numerous long-term toxicity studies in animals.

The read-across group associated with the reproductive toxicity hazard consists of substances that show high bioavailability or high bioaccessibility in gastric fluid, and contains the substances with harmonised/proposed harmonised classifications for reproductive toxicity – all of which are known or predicted to demonstrate a leading toxicological effect associated with the Co<sup>2+</sup> ion. The seven substances in this classification update show a high measured bioaccessibility (and bioavailability with a short-term *in vivo* study in one case), and were therefore placed in the highly bioaccessible group. As a result, the members of the CI and CoRC have taken the decision to self-classify Co monoxide, Co(II) 4-oxopent-2-en-2-olate, Co oxalate, Co propionate, Co borate propionate, Co bis(2-ethylhexanoate) and Co borate 2-ethylhexanoate under UN GHS as **Repr. 1B; H360F** by read-across.

Substance	Classifications (harmonised and self)
Co monoxide (self-classification)	Repr. 1B; H360F, Carc. 1B; H350i, Skin Sens 1B; H317, Resp. Sens. 1B; H334, Acute Tox. 3; H301, Acute Tox. 2; H330, Aquatic Acute 1; H400 (M=10), Aquatic Chronic 1; H410 (M=1)
Co monoxide (harmonised classification)	<i>Skin Sens 1; H317, Acute Tox. 4; H302 (minimum classification), Aquatic Acute 1; H400 (M=10), Aquatic Chronic 1; H410 (M=10)</i>
Co(II) 4-oxopent-2-en-2-olate	Repr. 1B; H360F, Eye Dam. 1; H318, Skin Sens. 1A; H317, Acute Tox. 4; H302, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 2; H411
Co oxalate	Repr. 1B; H360F, Skin Sens 1B; H317, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 2; H411
Co propionate	Repr. 1B; H360F, Eye Irrit. 2; H319, Skin Sens. 1A; H317, Acute Tox. 4; H302, Acute Tox. 4; H332, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 2; H411
Co, borate propionate complexes	Repr. 1B; H360F, Eye Dam. 1; H318, Skin Sens. 1A; H317, Acute Tox. 4; H302, Acute Tox. 4; H332, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 2; H411
Co bis(2-ethylhexanoate)	Repr. 1B; H360F, Eye Irrit. 2; H319, Skin Sens. 1A; H317, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 3; H412
Co, borate 2-ethylhexanoate complexes	Repr. 1B; H360F, Eye Irrit. 2; H319, Skin Sens. 1A; H317, Acute Tox. 4; H302, Acute Tox. 4; H332, Aquatic Acute 1; H400 (M=1), Aquatic Chronic 2; H411

**October 2018**