

EUROBAT White Paper on disclosure of information on battery material composition in battery labels and the battery passport, and other issues – Recommendations to policy-makers (January 2025)

EUROBAT recommendations for the implementing and delegated powers in Articles 13 and 77 of the Batteries Regulation.

- The implementing act under Ar. 13(10) of the Batteries Regulation should specify that the obligation to list hazardous substances present in batteries on battery labels should only apply to SVHCs, with a reporting threshold of 0.1% w/w. If policy-makers insist that all hazardous substances must be reported, beyond SVHCs, then a reporting threshold of 1% w/w should apply to those hazardous substances that don't meet the SVHC criteria. The same reporting thresholds should be introduced for the battery passport.
- The implementing act(s) to be adopted under Art. 77(9) should clarify the meaning of the wording “detailed composition” for the electrodes and electrolyte. Information requirements related to the cell composition should not go beyond the basic battery chemistry and share of elements (e.g. Li-NMC 8:1:1 for the cathode).
- Hazardous substances need not be reported by CAS number, the name is enough
- The implementing act under Art. 13(10) should clarify that the QR code to be affixed on SLI batteries, industrial batteries ≤ 2 kWh and portable batteries need not be changed each month or for each batch number.
- The Commission should clarify at which point in the battery's lifecycle should the information on hazardous substances and the detailed composition of the battery be reported.
- The implementing act should bring clarity on whether the label for SLI batteries should actually include the cranking current (in A), beyond the capacity (in Ah).

EUROBAT thanks the Commission for the opportunity to submit feedback following the workshop held by Ramboll (the external consultant) on 21 February 2024 on labelling in the Batteries Regulation. This position paper provides further recommendations on labelling to ensure the final rules are implementable in practice, specifically as regards the listing of hazardous substances.

In connection with the labelling issue, EUROBAT would like to shape the expected implementing act under Article 77(9) regarding access rights to battery passport data.

Overall, two aspects of information requirements on substances in batteries deserve scrutiny from policy-makers. First, as mentioned, the listing of hazardous substances on the label and in the battery passport. Second, the disclosure of granular information on the composition of battery cells via the battery passport.

A third issue, linked with the need to indicate the manufacturing date and batch number of the battery for small industrial batteries and SLI batteries through the QR code, should also be addressed. Other issues linked with the reporting of capacity and weight are also highlighted.

I. Information Labelling requirements under Part A of Annex VI, and Part 1 of Annex XIII of the Battery Passport – listing of hazardous substances

EUROBAT is concerned that the definition of “hazardous substances” in Art. 3(52) of the Regulation, combined with Art. 13 and Annex VI, could be interpreted in a way that would result in labels containing excessively long lists of substances.

The issue was discussed in the battery labelling workshop of 21 February 2024. Several manufacturers pointed out that fitting all hazardous substances meeting the classification criteria in the hazard classes listed in Art. 3(52) present in batteries on the label would be impossible¹. The link with self-classifications (instead of CLHs) and the breadth of hazard classes covered would render hazardous substance lists excessively long.

Commission representatives suggested that hazardous substances could be written on the label through acronyms: this would not solve the problem, given the high number of substances to be reported. The issue is related to the link with the CLP Regulation, which was designed to regulate articles, and the absence of a reporting threshold. Beyond the issue posed by the limited space on battery labels, screening for hazardous substances at very low resolution would be overly expensive for manufacturers, and most of the time inapplicable in practice.

To solve the problem, EUROBAT proposes that the obligation to list hazardous substances only applies to substances already identified as substances of very high concern (SVHCs) (i.e., Candidate List substances) and present in the battery in a concentration of 0.1% w/w or higher.

Listing all hazardous substances on labels would bring no benefits to OEMs, workers’, consumers’ or environmental safety

The presence of hazardous substances in batteries does not translate into actual risks – as the harmful properties of those substances are addressed through risk management measures, including occupational exposure limits. Batteries are sealed articles with no risk of exposure during normal conditions of use. Batteries are not like food products, where substance information on the label is key to informing consumer choices. Listing hazardous substances on the label would not bring any benefits to consumers.

Nor would providing long lists of substances on the label help protect the environment or workers, as the risks linked with hazardous substances are only present during the manufacture and the end-of-life stage of the battery life-cycle, before and after the timeframe during which labels are fixed on the battery.

Recital 44 hints at a targeted reporting of hazardous substances

Recital 44 of the Regulation specifies that batteries should be labelled with all the necessary information concerning their main characteristics, including their capacity and the amount of certain hazardous substances present in the battery – “certain” is not synonymous with “all”. “Certain” may indeed be understood as SVHCs, because only some of those hazardous substances present in batteries are very hazardous or of concern.

Beyond the setting of a reporting threshold, limiting the listing of substances to SVHCs would facilitate compliance for manufacturers as these substances are already reported in the SCIP database.

Hazardous substances need not be reported with the CAS number

¹ Indeed, the issue of hazardous substances reporting was found to be the most challenging aspect associated with the draft design and specifications presented by the consultant during the workshop, ahead of language and symbol issues, according to a poll ran with the workshops’ participants.

We object to Ramboll's proposal that hazardous substances should be reported with their CAS number, on top of the name (Section 9.3.9 of Ramboll's final report). Some substances, for example lead compounds present as leftovers from previous manufacturing steps in the electronics of lithium-ion battery packs, are difficult to match with a specific CAS number, which may make cell manufacturers liable in case of mistake.

EUROBAT proposals:

- Our understanding is that the obligation to report hazardous substances on the label is only limited to certain hazardous substances (see Recital 44); therefore, the obligation to list substances on battery labels should be limited to SVHCs. The reporting threshold for substances on battery labels should be aligned with that of the SCIP database and the threshold above which the obligation to communicate information on the presence of SVHCs in articles to downstream users under Art. 33 of REACH applies. Therefore, the reporting threshold should be 0.1% w/w.
- Nonetheless, if policy-makers insist that all hazardous substances present in batteries must be reported, beyond SVHCs, we suggest that a less severe threshold applies for these other substances: we propose 1% w/w.
- Similarly, the Commission should clarify that the obligation to list hazardous substances in the battery via the battery passport should only apply from 0.1% w/w (for SVHCs) and from 1% w/w (for other hazardous substances should policy-makers insist on requiring their disclosure), to avoid a mismatch with labelling requirements.
- For substances exceeding the threshold, we recommend not going beyond regulatory requirements by mandating that only the name of the hazardous substances be disclosed.
- Hazardous substances should only be reported by name.

II. Annex XIII, Part 1, point (b) and Part 2, point (a) - Detailed composition, including materials used in the cathode, anode and electrolyte

Concern number 1: confidentiality

EUROBAT warns against the consequence of mandating disclosure of cell-level recipes through the battery passport; these are core business know-how, their dissemination should be as limited as possible.

In Europe, recycling of waste lithium-ion batteries for electric vehicles is expected to be conducted by companies that also often belong to manufacturers of battery cells; therefore, absent strict confidentiality provisions, the battery passport would enable transfer of confidential business information from battery cell manufacturers to their rivals, disincentivising innovation.

The name of the electrode and electrolyte materials is sensitive information between different departments of the same corporation, no cell level material information at this granularity should be shared with the original equipment manufacturers. While we agree that that access to cell-level information would facilitate battery recycling, it is crucial that disclosure of such information comes with carefully designed confidentiality provisions.

Crucially, the wording “detailed composition” in point (a) of Part B of Annex XIII is too vague for it to be applicable in practice by battery manufacturers and enforcement authorities: the implementing act(s) to be adopted under Art. 77(9) should clarify the meaning of the wording “detailed composition” – or introduce a new wording. The definition or new wording should refer to basic information on the battery chemistry (e.g. NMC 5:2:2); any information exceeding that level of granularity would be of no use to recyclers.

At present, the duty to disclose the “detailed composition” of the electrodes and electrolyte could be interpreted in many different ways, from the most basic information (lithium-ion vs sodium-ion) to a more detailed breakdown.

The duty to disclose the “commercial warranty” (point (m) of Part 1) should also be removed. Should the Commission want to maintain this obligation, then the wording “commercial warranty” should be defined: not all manufacturers have the same understanding of what is a “commercial warranty”. This is especially true for industrial batteries, and in particular customised industrial batteries, for which relations between manufacturers and downstream users are most often “business-to-business” ones, where contractual agreements usually prevail in place of a warranty – the latter being privileged for business-to-consumer relations.

Concern number 2: Clarification needed on the point in the battery life-cycle for which the material composition, including the presence of hazardous substances, should be reported.

EUROBAT is concerned that Ramboll and the Commission overlook the fact that the chemical composition of a battery changes as it switches from charge to discharge state. Accordingly, both implementing acts under Art. 13(10) and Art. 77(9) of the Batteries Regulation should clarify the point in the battery life-cycle for which the hazardous substances present in the battery, and, when relevant, its detailed composition, should be reported on the label and in the battery passport.

EUROBAT proposals:

- The Commission should define, or, preferably, replace, the wording “detailed composition” for the cathode, anode and electrolyte. Information requirements as regards the composition in point (a) of Part 2 of Annex XIII should relate to the battery chemistry and the share of elements, rounded off to the nearest integer number for the cathode (e.g. Li-NMC 8:1:1 or 5:2:2), and basic elements for the anode and electrolyte (e.g. graphite for the anode, DMC:EC:PC 3:1:1 for the electrolyte).
- The obligation to disclose the “commercial warranty” should be removed. Should the Commission want to maintain this duty, then the wording “commercial warranty” should be defined.
- The Commission should clarify at which point in the battery’s lifecycle should the information on hazardous substances and the detailed composition of the battery be reported.

III. Batteries without a battery passport: the disproportionate costs of changing the QR code each month and for each batch number

Point (b) of Art. 13(6) specifies that all batteries should be marked with a QR code as of February 2027. For batteries for which the battery passport does not apply (industrial batteries ≤ 2 kWh, portable batteries and SLI batteries), the QR code should give access to the general information set out in Part A of Annex VI. This includes the battery

category and information identifying the battery in accordance with Article 38(6), along with the batch or serial number and the date of manufacturing of the battery (month and year).

If those rules are maintained, manufacturers of industrial batteries ≤ 2 kWh, SLI batteries and portable batteries would need to issue a new QR code for each batch number and at the beginning of each new month, to change the batch number and fabrication date. This would mean all portable batteries under blister would come with a new QR code for each batch number each month.

EUROBAT sees no added value in providing a new QR code for each batch number and at the beginning of each month. One QR code for each battery reference would suffice, all the more since the manufacturing is accessible via the batch number itself, which is always engraved on the battery directly. The implementing act under Art. 13(10) should specify that the QR code need not be changed each month for each batch number in those cases.

The costs of issuing a new QR code for each batch and each passing month

Affixing a QR code requires investment in specific marking equipment, with marking being done on the production or packaging lines if the packaging operation is not done directly on the production line, which is the case for non-rechargeable portable lithium batteries for example. For most small industrial batteries, the manufacturing date and batch number will need to be read on the cell before a QR code can be generated, complexifying the QR-marking process if the obligation to indicate the manufacturing date by month and the batch number is retained.

The case of small industrial batteries: making the batch number and manufacturing date accessible via the QR provides no value

The costs of requesting access to the batch number and manufacturing date (by month) through the QR code would be particularly high for small industrial batteries, -specifically small cylindrical batteries (rechargeable or not).

Indeed, it is not possible to put a readable QR code on the element or its sheath, as place is very limited and the bulge does not facilitate reading. The priority is to provide safety data (electrochemistry, voltage, rechargeable or not, risks), the name of the manufacturer and of the product, and the batch number allowing traceability.

Therefore, the QR code will be affixed to the packaging. Given that the packaging is destroyed at unpacking, with the battery being most of the time integrated into a wider equipment, all data accessible via the QR code only will be lost – the manufacturing date would remain accessible through the batch number marked on the item.

Requesting access to the batch number and manufacturing date through the QR code would require changing the QR code on the packaging for each batch change (which can be several times a day) and each month change, with no added-value.

The rationale justifying access to a wide body of information via the QR code for the consumer does not apply to small industrial batteries, inserted in the final industrial equipment, as the original packaging is not attached to the industrial equipment containing the cell and sold to the final user.

As for consumer applications, small industrial batteries are not directly accessible by the consumer, as they are inserted into the wider equipment before being placed on the market for consumer use. The QR code would only be accessible by the industrial downstream user, therefore not providing the same added value as with portable batteries, where the QR code would work in a B2C context.

IV. Preventing potential problems with reporting of capacity and weight

The final Report of Ramboll's study in support for the development of harmonised specifications for the labelling requirements of batteries² specifies that the capacity of starting, lighting and ignition (SLI) batteries should be stated in ampere-hours (Ah) and amperes (A). However, this is technically incorrect and not meaningful.

Indeed, Art. 3 [Commission Regulation \(EU\) No 1103/2010](#), which was adopted under the old Batteries Directive, states that the capacity of automotive batteries should be expressed in Ah, to indicate the capacity that a battery can store under defined conditions set out in the [IEC 60095-1](#) / [EN 50342-1](#) standards, as well as in cold cranking amperes (A) (cranking current). The latter value is a test parameter required to test the performance of an SLI battery at low temperatures.

However, Part A of Annex VI to the new Batteries Regulation only requires the inclusion of "the capacity" (point 6) as regards the capacity parameter, no reference is made to cold cranking.

Should the Commission nonetheless consider that SLI battery labels should include the cranking current, on top of the capacity as such, then this should be formally stated in the implementing act, to avoid confusion. Likewise, should the Commission consider that references to the cold cranking current is not necessary, then the implementing act should clarify that the data attribute "capacity" does not relate to "cranking current". In any case, implementing legislation should make clear that "capacity" and "cranking current" are two different things.

Lastly, it should be clarified that the reported weight of the battery should be that at the time of manufacturing, as weight can evolve during the product lifetime. Due to product fluctuations, a certain tolerance is essential and must be considered: we propose 5%, as is common practice in the industry. This tolerance does not have to be indicated on the label. Council Directive 76/211/EEC already includes such a tolerance for certain pre-packaged products.

EUROBAT proposals:

- The implementing act should specify either of the following:
 - i. The label for SLI batteries should include both the capacity (Ah) and cranking current (A), as two separate data attributes, or
 - ii. The label for SLI batteries should require manufacturers to include the capacity on the label while clarifying the cranking current is not covered under capacity.
- Technical details of methods to determine the capacity of SLI batteries are subject to Standardisation Request M/579. If methods are needed to determine the cranking current of SLI batteries, a further amendment of M/579 (and the Regulation itself) would be needed.
- SLI batteries should be labelled with the design weight with a tolerance of 5%.

² Technical support for the development of harmonised specifications for the labelling requirements of batteries Technical support to implement the new Batteries Regulation between 2023 and 2025 Final report, Task 2

About EUROBAT



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EUROBAT is the association for the European manufacturers automotive, industrial and energy storage batteries. EUROBAT has more than 50 members from across the continent comprising more than 90% of the automotive and industrial battery industry in Europe. The members and staff work with all stakeholders, such as battery users, governmental organisations and media, to develop new battery solutions in areas of hybrid and electro-mobility as well as grid flexibility and renewable energy storage.