

# Public Statement for the ECVM Charter for Production of Vinyl Chloride Monomer and PVC

Verification of the Sites for Reference Years 2021/2023

European Council of Vinyl  
Manufacturers

DEKRA Assurance Services GmbH

27.09.2024

## INTRODUCTION

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DEKRA was engaged by the European Council of Vinyl Manufacturers (ECVM) to report on compliance against the “ECVM Industry Charter for the Production of Vinyl Chloride Monomer and PVC”. The ECVM Charter is a voluntary code of practice that was designed to commit signatories to adopt best available practice to minimise emissions to the environment.

Compliance with the ECVM Charters were previously verified in 1999, 2001, 2005 and 2010 at member companies.

In 2019, the ECVM Charters were revised. Additional requirements were added, and limit values were lowered.

This verification exercise covered the operating period of January-December 2021. Additional audits were carried out in April-May 2024, covering the operating period of January-December 2023.

## Basis of our Work

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The verification scope covered the environmental standards detailed in the Annex to the ECVM Industry Charter, which can be found at <http://www.pvc.org/>. The standards are supported by ECVM “Criteria to determine compliance with the ECVM Charter<sup>1</sup>” document which contains details on monitoring and measuring (e.g. sampling frequency and averaging period for samples).

These criteria have been used by DEKRA as the basis for assessing compliance with the Charter.

## Participating Sites

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The verification included the 7 members of ECVM based at 28 sites around 9 countries in Europe. 46 plants were verified in total, 16 VCM/EDC plants, 19 S-PVC plants and 11 E-PVC plants.

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<sup>1</sup> Version 12, 8 May 2024

## Work Performed

We planned and performed our work to obtain sufficient information and explanations to give us reasonable assurance that compliance with the Charter standards has been achieved.

The verification exercise involved the following stages:

1. Sites were provided with pre-site visit questionnaires to complete before auditor visited the site.
2. A pre-visit videoconference call was carried out by the auditor and the site personnel.
3. A site visit was carried out at each site to enable verification of data, monitoring systems and procedures.
4. Individual site reports were prepared for each site, summarising the information verified and the compliance status. All reports were reviewed centrally to correlate findings across all sites, comparing approaches and ensuring consistency of data.
5. In 2022, ECVM decided that sites that did not show full compliance have to undergo a second audit for the parameters with only partial compliance, non-compliance or that were “unable to verify”.
6. In April/May 2024, second audits were carried out at the sites. The process was as described above.

During the verification, the following scheme was used:

	Value below charter limit	Value above charter limit
Frequency above charter	Full compliance	Non-compliance
Frequency below charter	Partial compliance	Non-compliance

## 3 Compliance Results

Table 1 shows the overall compliance across all the sites and companies around Europe.

For 2021, the overall compliance rate was 89 %. After the second round of audits, the overall compliance rate was 99.2 %

It is important to note that the following table assumes that full compliance of parameters in 2021 is maintained during the 2023 verification period.

Between the verification periods, some sites implemented measures to improve the process and reduce the emissions.

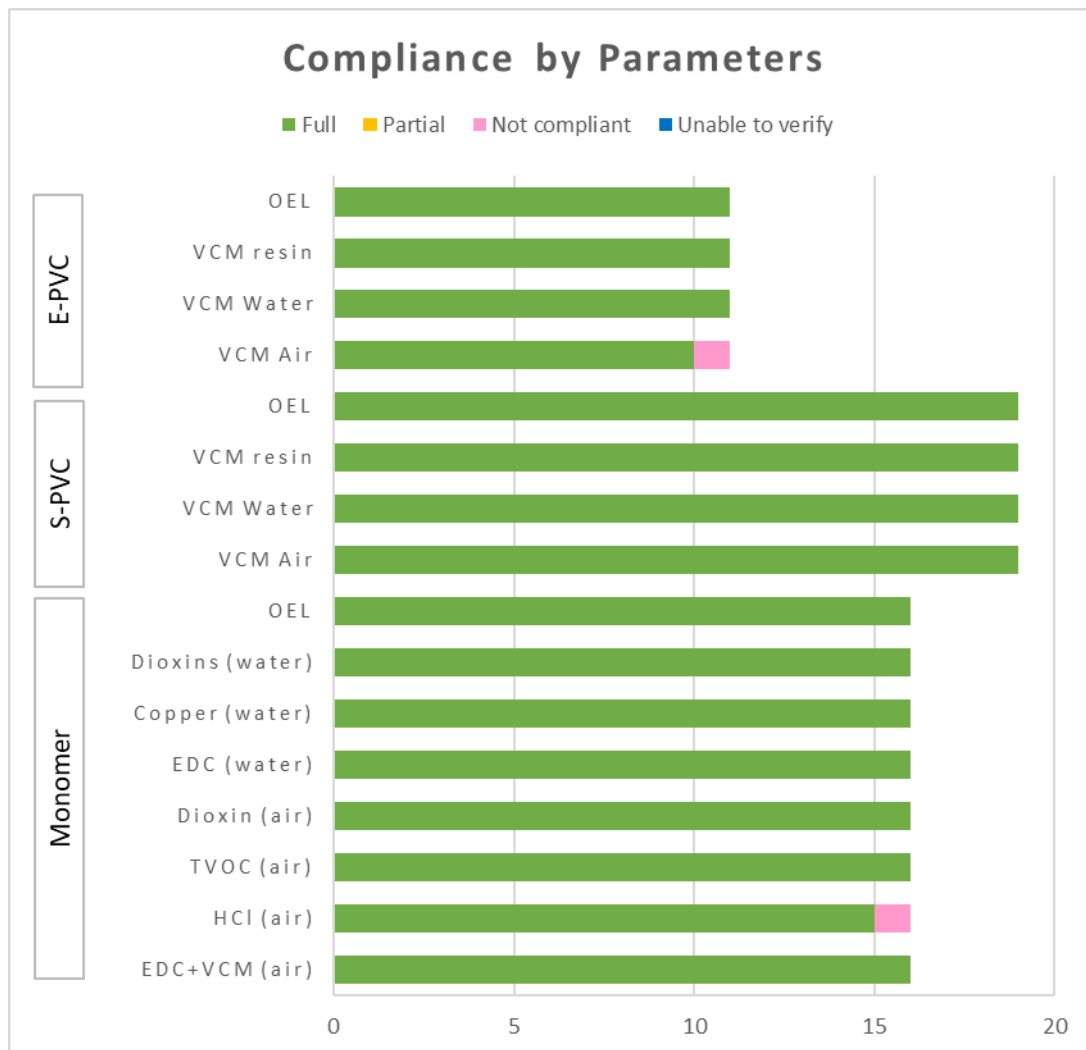
The two sites with non-compliance participated in the audits in 2023 for the first time. Measures to reduce emissions are currently being planned.

EDC/VCM								S-PVC				E-PVC			
Emissions to Air				Emissions to Water			OEL								
EDC+VCM	HCl	TVOC	Dioxin	EDC	Copper	Dioxins	OEL	VCM Air	VCM Water	VCM resin	OEL	VCM Air	VCM Water	VCM resin	OEL
Y*	Y	Y*	Y	Y*	Y*	Y*	Y	Y	Y*	Y	Y				
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y*	Y	Y				
Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
Y*	Y*	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
								Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y*	Y	Y	Y	Y								
Y*	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
								Y	Y	Y	Y*				
								Y	Y	Y	Y				
								Y	Y	Y	Y				
Y	N 1	Y	Y	Y	Y	Y	Y								
Y	Y	Y	Y	Y	Y	Y	Y								
												N 2	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y					Y	Y	Y	Y
								Y	Y	Y	Y				
								Y	Y	Y	Y	Y	Y	Y	Y
Y*	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y*	Y
								Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y*	Y	Y	Y	Y	Y					Y	Y*	Y	Y
Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
								Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y								
								Y	Y	Y	Y				
Y	Y*	Y	Y	Y	Y*	Y	Y	Y	Y	Y	Y				
								Y	Y	Y	Y				

- Y Full compliance
- Y\* Full compliance in 2nd audit
- P Partial compliance
- N Non compliance
- U Unable to verify

Table 1: Verification results. Empty cells: Parameter not applicable to the site.

The compliance by parameters is shown in the following figure. A total compliance rate of 99.2 % was calculated.



## Conclusions and Recommendations

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The 2021 verification, together with the second round of audits, has brought an overall compliance of 99.2 %, similar as for the previous audit, even though the limit values in the ECVM Charter revision of 2019 were significantly reduced compared to the previous Charters.

Several specific recommendations have been given to the sites and to ECVM.

## Signatures

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