

BACKGROUND

The information on emissions data provided is twofold:

- (a) information on the measurement procedures applied** and
- (b) information on the emission rates for certain substances emitted by printing systems.**

Please consider the following information before using the emissions data:

Regarding **(a) measurement procedures applied**:

New printing systems platforms (consisting of device, original toner or ink cartridges and papers) are tested by test labs for emissions. These tests are conducted in controlled environmental test chambers following international standard procedures which are marked in section P10.2.

The [ISO/IEC 28360](#) norm, fully aligned with [ECMA-328](#) which is generally used by original manufacturers is a standard measurement procedure for determining emissions from information and communication technology and consumer electronics equipment. Part 1 of the ISO/IEC standard (for equipment using consumables) defines the internationally recognized test methodology for measuring printing systems' emissions and requires testing under high-use operating conditions. Part 2 of the ISO/IEC standard is for equipment not using consumables, for instance computers, monitors, TV sets or audio units.

Regarding **(b) declared emissions rates of printing systems**:

As many other technical products, printing systems can release chemical and particle emissions. This is why original manufacturers commission specialized labs to test new printing system platforms for emissions prior to market introduction. The tests have to follow internationally recognized emissions measurement procedures (pls. see above).

The emissions data provides customers with information on the devices' emissions contribution to indoor air during device operation. This information is available for single volatile organic compounds (VOCs) such as benzene and styrene as well as for this substance group's total (TVOCs). In addition, information is provided for release of particulate matter. This includes ultra-fine particles (UFPs) as well as gravimetrically measured. Finally, ozone emissions are also indicated if these were detected during measurement; however UFPs and ozone only for electrophotographic print devices.

These emissions categories correspond with the emissions requirements as defined by the German Blue Angel eco-label for office equipment with printing function which has been setting important standards for eco-labels all over the world for years. Based on the emissions information, customers can compare the devices' individual performance against technical eco-label criteria (e.g. Blue Angel, Nordic Swan, etc.) and – when converted into concentrations by referring to specific office scenarios – also to occupational workplace limits and toxicologically based indoor and inhalation guide values. Typically, test results show that the devices' emissions contribution lies well below these requirements.

GUIDANCE TO MANUFACTURERS

Ultra-Fine Particles (UFPs): due to the great uncertainty regarding the importance of UFPs, these are not included in P10.3. Companies wishing to report UFPs and any other emissions can do so in section P15. **Emission rate data reporting:** it is recommended to report data 'below a specified limit' and not individual product test results.

GUIDANCE TO CUSTOMERS

General: eco-label maximum emission rate limits are performance based and not based on hazard.

Important: If a user of an ECMA-370 declared or an eco-label chemical emissions compliant printing system is using a different aftermarket non-OEM print supply (e.g. cloned, refilled or remanufactured), the compliance statement by the initial supplier is not valid. To maintain the compliance statement, the user must contact the provider of the aftermarket print supply (cloned, refilled/remanufactured) print supplies and obtain a new compliance confirmation. For an eco-label certified product, where a different print supply is used, the label is no longer valid and has either to be removed or be recertified with the non-OEM print supply.