BG ETEM
Energie Textil Elektro
Medienerzeugnisse

Working Tool

Industry Initiative Offset printing

August 2022

CRITERIA OF THE INDUSTRY INITIATIVE FOR THE REDUCTION OF SOLVENT EMISSIONS IN OFFSET PRINTING

As long ago as 1995 the BG ETEM (German institution for statutory accident insurance and prevention) responsible for the printing and paper processing industry in Germany realized that a totally new approach to the control of chemicals was required if the industry and authorities were to respond positively to the challenges ahead. Environmental and health concerns had been growing, and many printers needed simple guidelines to help them achieve a healthier and safer working environment. So was born the “Industry initiative on solvents in Offset printing”.

The Industry initiative on solvents in offset printing is a voluntary scheme to reduce volatile organic compounds (VOCs) in the offset process, by replacing roller and blanket washes with e. g. a high boiling point/vegetable cleaning agent (VCA). It has been launched during printer’s trade fair DRUPA in 1995.

In accordance with the agreement reached between the associations, manufacturers of machinery and printing media printers may now only use certain product groups as washing agents in offset printing. The companies’ declared objective is to make a decisive contribution to reducing emissions in offset printing industry.

Principle: The participating companies shall submit products to BG ETEM prior to their technical appraisal (by a recognized testing institution, e.g. FOGRA).

In accordance with the latest findings in the field of safety, the following criteria shall apply. Recommendations for approval testing of cleaning agents for new printing machines (manufactured after 10.05.1995) in the offset printing sector:

Exclusion of products with the following properties

- corrosive/irritant to skin (Cat. 1A), respiratory and skin sensitisation (Cat. 1, 1A, 1B) and other harmful characteristics with the hazard statement codes: H314 (Cat. 1A), H317, H334, EUH070
- flammable liquids with the hazard statement codes: H224, H225, H226
- other harmful characteristics with the hazard statement codes: EUH029, EUH031, EUH032
- When the product is used for its intended purpose, the workplace exposure limits are likely to be exceeded.

Exclusion of substances *

- halogenated hydrocarbons
- Terpenes
- n-Hexane
- secondary amines and amides
- Nonylphenols
- N-Methyl-2-pyrrolidone (NMP)
- 2-Butoxyethanol

* Impurities resulting from technical processes (non-intentionally added substances – NIAS) are permitted up to their specific individual classification and labelling thresholds.

Exclusion of substances with the following hazard statements

- germ cell mutagenic (Cat. 1A, 1B, 2), carcinogenic (Cat. 1A, 1B, 2) and toxic for reproduction (Cat. 1A, 1B) with the hazard statement codes: H340, H341, H350, H350i, H351, H360, H360F, H360D, H360FD, H360Fd, H360Df
- specific target organ toxicity (Cat. 1), acute toxicity (Cat. 1,2,3) and other harmful characteristics with the hazard statement codes: H300, H301, H310, H311, H330, H331, H370, H372
- severe health hazards with the hazard statement codes: H334 and EUH070

Please note: In individual instances certain substances may be rejected, although they meet the above-mentioned criteria. This can happen, for example, when these substances have properties which are not covered by hazard statements, as is the case with confirmed neurotoxic solvents or with substances which, when handled, can lead to the formation of hazardous substances, as in the use of secondary amines and amides, for example, with the possibility of the formation of carcinogenic nitrosamines (see below).

Concentration limits for other substances

- Benzene content < 0,1 %
- Toluene and Xylene content < 1 %
- Aromatics content (≥ C_9) < 1 %

Additional criteria specifically for vegetable oil-based Heatset cleaning agents

- The iodine number is below 20

or

- The iodine number is above 20

  The vegetable oil content in the product consists exclusively of soya oil or blends of rapeseed oil and rapeseed oil methyl ester. In this case the respective fatty acid pattern must have a percentage of linoleic acid of below 25 % and a percentage of linolenic acid of below 10 %, based on 100 % product. Please attach relevant documentary evidence.

or

- The iodine number is above 20

  Provided the vegetable oil content of the product does not consist exclusively of soya oil or blends of rapeseed oil and rapeseed oil methyl ester (or if the fatty acid pattern does not correspond to the values quoted above), the manufacturer must determine the fatty acid pattern (Please attach relevant documentary evidence). Following this, the self-ignition behaviour of the washing agent will - at the manufacturer's cost - be investigated with two different catalysts in an insulating cube ("Dämmwürfel"), whereby the sample temperature must not exceed 50 °C.

Please note that further safety tests (determination of the evaporation factor, calibration of the dryer etc.) are carried out separately and are not covered by this.