

Assessment against various European Ecolabels

This document offers guidance on how we assess Eastman Optifilm™ enhancer 400 against a set of Ecolabel paint and varnish criteria. Our assessment has been completed based on EC/1272/2008 (CLP regulation) classification and consolidated into different themes to show how to be compliant with our product. Each of the following Ecolabels can only be obtained for finished products. For specific details, refer to the relevant official guidance documents.

General guidance	EU Ecolabel paints and varnishes (indoor and outdoor) Version: 1.6, including Commission Decision (EU) 2021/1871 Date: 22 October 2021	Optifilm 400 can be used in EU Ecolabel-compliant paint and varnish. While Optifilm 400 is not identified as a volatile organic compound (VOC) or semivolatile organic compound (SVOC), the product contains nominal levels of impurities identified as VOC or SVOC that need to be taken into consideration in the final VOC and SVOC assessment of the formulated paint.
	Nordic Ecolabel; indoor paints and varnishes Version: 3.10 Date: 1 March 2022	Optifilm 400 can be used in Nordic Ecolabel-compliant indoor paint and varnish. While Optifilm 400 is not identified as a VOC or SVOC, the product contains nominal levels of impurities identified as VOC or SVOC that need to be taken into consideration in the final VOC and SVOC assessment of the formulated paint.
	NF130; Paints, varnishes, and related products Version: 10.2 Date: 24 September 2020	Optifilm 400 can be used in NF130 Environnement-compliant paint and varnish. While Optifilm 400 is not identified as a VOC or SVOC, the product contains nominal levels of impurities identified as VOC or SVOC that need to be taken into consideration in the final VOC assessment of the formulated paint.
	Blue Angel; low-emission interior wall paints; DE-UZ 102 Version: 3 Date: January 2019	Optifilm 400 is identified as an external plasticizer according to VdL Guideline 01. This excludes the use of Optifilm 400 in Blue Angel low-emission interior wall paint.

Category	Ecolabel (criteria No.)	Criteria description	Product assessment	
VOC	VOC—in-can approach Definition: boiling point < 250°C Method: ISO 11890-2, DEA marker	EU Ecolabel (4) NF130 (4) Nordic Ecolabel (O13) Blue Angel UZ 102 (3.3)	Limits ready-to-use formulation—see Appendix	< 0.45% (w/w)
	SVOC—in-can approach Definition: boiling point 250°–370°C Method: ISO 11890-2, DEA and C22 markers	EU Ecolabel (4) Nordic Ecolabel (O13) Blue Angel UZ 102 (3.4)	Limits ready-to-use formulation—see Appendix	< 1.40% (w/w)
Hazard profile	Classification of the product: human toxicity	EU Ecolabel (5a) Nordic Ecolabel (O2) NF 130 (7a) Blue Angel UZ 102 (3.1b)	<ul style="list-style-type: none"> • Acute toxicity (oral, dermal, inhalation)—Categories 1–4 • Specific target organ toxicity (STOT)—Categories 1–2 • Respiratory and skin sensitivity—Categories 1A and 1B • Carcinogenic, mutagenic, or reprotoxic (CMR)—Categories 1A, 1B, 2 	None of the categories listed (see SDS)
	Classification of the product: environmental toxicity	EU Ecolabel (5a) Nordic Ecolabel (O2, O4, O12) NF130 (7a) Blue Angel UZ 102 (3.1b)	<ul style="list-style-type: none"> • Hazardous to the aquatic environment—Categories 1–4 • Hazardous to the ozone layer • Substances evaluated by EU as PBT or vPvB^a 	None of the categories listed (see SDS)
	ECHA Candidate List/SVHC (substances of very high concern)	EU Ecolabel (5b) Nordic Ecolabel (O12) Blue Angel UZ 102 (3.1a)	Substances included on ECHA's Candidate List (SVHC)	Not used as a raw material ^b
	Classification of the product: other	Nordic Ecolabel (O2, O12)	<ul style="list-style-type: none"> • Aspiration hazard—Category 1^a • Skin corrosion or irritation—Categories 1A, 1B, 1C^a • Explosives—Categories 1.1–1.6^a • Oxidizing liquids and solids—Categories 1–3^a • Self-reactive substances, mixtures, and organic peroxides^a • Extremely flammable aerosol and liquids^a • Potential endocrine disruptors—Category 1 or 2^a 	Not used as a raw material ^b
Composition	Preservatives	EU Ecolabel (5c—Appendix 1) Nordic Ecolabel (O5) NF130 (7f) Blue Angel UZ 102 (3.5)	<ul style="list-style-type: none"> • Preservatives • Isothiazolinone compounds 	Not used as a raw material ^b
	Formaldehyde	EU Ecolabel (5c—Appendix 7a) Nordic Ecolabel (O6) NF130 (7e) Blue Angel UZ 102 (3.5)	Products must not contain actively added formaldehyde (CAS 50-00-0). The level of free formaldehyde (from formaldehyde not intentionally added) in the final product must not exceed 10 ppm (0.001% [w/w] or 100 ppm for Blue Angel).	Not used as a raw material ^b
	Excluded substances/product groups: general	EU Ecolabel (5c) Nordic Ecolabel (O8, O12) NF130 (7b, c, d, g, h, i) Blue Angel UZ 102 (3.2)	Categories include driers, anti-skinning agents, corrosion inhibitors, surfactants (including APEOs), heavy metals and their compounds, UV protectors, certain plasticizers (phthalates), unreacted monomers, volatile aromatic hydrocarbons (VAH), halogenated organic substances/solvents, isocyanates, fragrances, certain glycol ethers, and perfluorinated and polyfluorinated chemicals.	Not used as a raw material ^b
	Excluded substances/product groups: neutralizing agents	EU Ecolabel (5c) NF130 (7i)	EU Ecolabel/NF130 limit 0.50% w/w (varnishes, floor coverings: 1.0% w/w)—derogated classifications H311, H331, H400, H410, H411, H412, H413	Not used as a raw material ^b
	Plasticizers	Blue Angel UZ 102 (3.2.3)	Products that contain plasticizing substances from the group of phthalates or group of organophosphates or other comparable substances with a high boiling point	Considered a plasticizer under the definition
	Titanium dioxide	EU Ecolabel (2) Nordic Ecolabel (O9)	Titanium dioxide	Not used as a raw material ^b
Nanoparticles	Nordic Ecolabel (O11) NF130 (9)	Nanoparticles/nanomaterial	Not used as a raw material ^b	

Category		Ecolabel (criteria No.)	Criteria description	Product assessment
Final product	Final product related criteria	EU Ecolabel (1, 3, 6, 7) Nordic Ecolabel (O1, O17–O30) NF130 (6, 8, 10–13) Blue Angel UZ 102 (3.7)	Information about the product, including quality requirements (e.g., white pigment content, wet scrub resistance, efficiency in use) and consumer information	Applies to final product
	Production information	Nordic Ecolabel (O10)	Powdered raw materials must be added in closed systems, in a suspension, or by means of a method that promotes a low-dust working environment.	<ul style="list-style-type: none"> Applies to formulation production process Product is not a powdered raw material
	Production information	NF130 (1, 2)	<ul style="list-style-type: none"> Total losses of materials in manufacture Manufacturing waste of the product 	<ul style="list-style-type: none"> Applies to formulation production process Product is not a powdered raw material

^a Only applicable for Nordic Ecolabel indoor paints and varnishes

^b This product is not analyzed for the presence of the specific substance(s) listed. However, these substances are not used as raw materials nor are they added to the manufacturing process or the end product. It is unlikely that any of these substances would be present as impurities in this product in concentrations exceeding the legislation limits.

Appendix

Product classification (2004/42/EC)	Category	VOC limits (ready-to-use product)				SVOC limits (ready-to-use product)					
		EU Ecolabel	Nordic Ecolabel	NF130	Blue Angel	EU Ecolabel	Nordic Ecolabel ^a	EU Ecolabel	Nordic Ecolabel ^a	NF130	Blue Angel
		All products				White paints and varnishes		Tinted paints and varnishes		All products	
		(g/L)	(g/L)	(g/L)	(ppm)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(ppm)
Interior matte (walls/ceiling) (gloss < 25 @ 60°)	a	10	10	30	700	30	30	40	40		500
Interior glossy (walls/ceiling) (gloss > 25 @ 60°)	b	40	40	100	700	30	30	40	40		500
Interior trim and cladding paint for wood and metal	d	80	80	130	NA	50	50	60	60	No SVOC limits within criteria	NA
Interior trim varnish and wood stains, including opaque wood stains	e	65	65	130		30	30	30	30		
Interior minimal-build wood stain	f	50	50	130		30	30	40	40		
Primer	g	15	15	30		30	30	40	40		
Binding primer	h	15	15	30		30	30	40	40		
One-pack performance coating	i	80	80	140		50	50	60	60		
Two-pack reactive performance coating for specific end use such as floors	j	80	80	140		50	50	60	60		
Decorative effect coating	k	80	80	100		50	50	60	60		

^a TVOC emission limits of 0.1 mg/m³ after 28 days (alternative to SVOC content requirements)

Questions? Contact your local Eastman sales representative.

EASTMAN
The results of insight™

Eastman Corporate Headquarters

P.O. Box 431
Kingsport, TN 37662-5280 U.S.A.

U.S.A. and Canada, 800-EASTMAN (800-327-8626)
Other locations, +(1) 423-229-2000

www.eastman.com/locations

Although the information and recommendations set forth herein are presented in good faith, Eastman Chemical Company ("Eastman") and its subsidiaries make no representations or warranties as to the completeness or accuracy thereof. You must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. Nothing contained herein is to be construed as a recommendation to use any product, process, equipment, or formulation in conflict with any patent, and we make no representations or warranties, express or implied, that the use thereof will not infringe any patent. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND NOTHING HEREIN WAIVES ANY OF THE SELLER'S CONDITIONS OF SALE.

Safety Data Sheets providing safety precautions that should be observed when handling and storing our products are available online or by request. You should obtain and review available material safety information before handling our products. If any materials mentioned are not our products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

© 2022 Eastman. Eastman brands referenced herein are trademarks of Eastman or one of its subsidiaries or are being used under license. The ® symbol denotes registered trademark status in the U.S.; marks may also be registered internationally. Non-Eastman brands referenced herein are trademarks of their respective owners.