

## **Registration, Evaluation, Authorization and Restriction of Chemicals, (REACH) and status at Pankakoski Mill Oy**

Pankakoski Mill Oy is a manufacturer of fiber based packaging board materials. All the board grades (PankaBrite, PankaWhite, PankaLux, PankaSeal, PankaDisc, PankaStar, PankaPlex, PankaMax, PankaSilk, PankaFrame, PankaTray) manufactured by Pankakoski Mill Oy are produced solely from virgin fibers and additives.

The European Union regulation on chemicals, REACH, entered into force on June 1<sup>st</sup>, 2007. The aim of REACH is to improve the protection of human health and the environment through better and earlier identification of intrinsic properties of chemical substances.

The REACH regulation gives greater responsibility to industry to manage the possible risks from chemicals and to provide safety information on the substances.

Paper and board are defined as "articles" under the REACH regulation. According to the requirements of REACH only substances intentionally released from articles need to be registered. None of the board grades manufactured by Pankaboard Oy contain any substances that are meant to release during the use of the article. This means that none of the board grades manufactured by Pankaboard Oy will be registered in REACH.

REACH requires from Pankakoski Mill Oy to inform its customers if the products manufactured by Pankaboard Oy contain above 0,1% (w/w) of a substance of very high concern (SVHC).

None of the board grades manufactured by Pankakoski Mill Oy contain any substances with very high concern (SVHC) listed by European Chemical Agency.

Pankakoski Mill Oy continuously follows the status of SVHC list and will inform its customers if needed.

REACH requirements will be implemented during an eleven yearlong phase-in period. Manufacturers and importers of chemical substances are required to gather information on the properties of their substances allowing safe handling and use of the chemicals. This information will be available in material safety data sheets (MSDS) and exposure scenarios.

Pankakoski Mill Oy will control that all of its chemical suppliers will cover the requirements of REACH within the timeframe set by the regulation.

### **ECHA Candidate List of Substances of Very High Concern for Authorization**

ECHA (European Chemicals Agency) has published a candidate list of chemicals that have been identified as Substances of Very High Concern (SVHC) under the REACH regulation. These substances may have very serious and often irreversible effects on humans and the environment. Substances on the candidate list may subsequently become subject to authorization by decision of the European Commission.

Below is the list of the substances included in the candidate list of Substances of Very High Concern by ECHA, latest updated on 12.1.2017

- 1-bromopropane (n-propyl bromide)
- 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich
- 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with  $\geq 0.3\%$  of dihexyl phthalate
- 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters
- 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear
- 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear
- 1,2-bis (2-methoxyethoxy)ethane (TEGDME; triglyme)
- 1,2-dichloroethane
- 1,2-diethoxyethane
- 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)
- 1,2,3-Trichloropropane
- 1,3-propanesultone
- 1,3,5-tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)
- 1,3,5-tris ((2S and 2R)-2,3-epoxypropyl)-1,3,5-triazine-2,4,6-(1H,3H,4H)-trione
- 1-Methyl-2-pyrrolidone
- 2,4-Dinitrotoluene
- 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)
- 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)
- 2-Ethoxyethanol
- 2-Ethoxyethyl acetate
- 2-Methoxyaniline; o-Anisidine
- 2-Methoxyethanol
- 2,2'-dichloro-4,4'-methylenedianiline
- 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
- 4-Heptylphenol, branched and linear
- 4-(1,1,2,2-tetramethylbutyl) phenol
- 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated
- 4,4'-Diaminodiphenylmethane (MDA)
- 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol
- 4,4'-bis(dimethylamino) benzophenone (Michler's ketone)
- (4-((4-anilino-1-naphthyl)(4-(dimethylamino)phenyl)methylene)cyclohexa-2,5-dien-1-ylidene) dimethylammonium chloride
- (4-(4,4'-bis(dimethylamino)benzhydrylidene)cyclohexa-2,5-dien-1-ylidene)dimethylammonium chloride
- 4,4'-isopropylidenediphenol
- 4,4'-methylenedi-*o*-toluidine
- 4,4'-oxydianiline and its salts
- 4-aminoazobenzene
- 4-methyl-*m*-phenylenediamine (toluene-2,4-diamine)
- 4-Nonylphenol, branched and linear

- 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2], [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]
- 5-tert-butyl-2,4,6-trinitro-*m*-xylene (musk xylene)
- 6-methoxy-*m*-toluidine (p-cresidine)
- A,a-Bis(4-(dimethylamino)phenyl)-4 (phenylamino)naphthalene-1-methanol
- Acetic acid, lead salt, basic
- Acrylamide
- Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)
- Aluminosilicate (Refractory Ceramic Fibres)
- Ammonium dichromate
- Ammonium Pentadecafluorooctanoate (APFO)
- Anthracene
- Anthracene Oil
- Anthracene Oil, anthracene paste
- Anthracene Oil, anthracene paste, anthracene fraction
- Anthracene Oil, anthracene paste, distn. lights
- Anthracene Oil, anthracene-low
- Arsenic acid
- Benzo(def)chrysene
- Benzyl butyl phthalate (BBP)
- Biphenyl-4-ylamine
- Bis (2-methoxyethyl) ether
- Bis (2-ethylhexyl) phthalate (DEHP)
- Bis (2-methoxyethyl) phthalate
- Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)
- Bis (tributyltin) oxide (TBTO)
- Boric acid
- Cadmium
- Cadmium chloride
- Cadmium oxide
- Cadmium sulphide
- Calcium arsenate
- Chromic acid, Oligomers of Chromic acid and Dichromic acid, Dichromic acid
- Chromium Trioxide
- Cobalt dichloride
- Cobalt (II) carbonate
- Cobalt (II) diacetate
- Cobalt (II) dinitrate
- Cobalt (II) sulphate
- Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3]
- Diarsenic pentaoxide

- Diarsenic trioxide
- Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))
- Diboron trioxide
- Dibutyl phthalate (DBP)
- Dibutyltin dichloride (DBTC)
- Dichromium tris(chromate)
- Diethyl sulphate
- Dihexyl phthalate
- Dimethyl sulphate
- Diisobutyl phthalate (DIBP)
- Dinoseb (6-sec-butyl-2,4-dinitrophenol)
- Dioxobis(stearato)trilead
- Dipentyl phthalate (DPP)
- Disodium 3,3'-((1,1'-biphenyl)-4,4'-diylbis(azo))-(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)
- Disodium 4-amino-3-((4'-((2,4-diaminophenyl)azo)(1,1'-biphenyl)-4-yl)azo)-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)
- Disodium tetraborate, anhydrous
- Diisopentylphthalate (DIPP)
- Fatty acids, C16-18, lead salts
- Formaldehyde, oligomeric reaction products with aniline
- Formamide
- Furan
- Henicosafluoroundecanoic acid
- Heptacosafuorotetradecanoic acid
- Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified:
  - Alpha-hexabromocyclododecane
  - Beta- hexabromocyclododecane
  - Gamma- hexabromocyclododecane
- Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4]
- Hydrazide
- Imidazolidine-2-thione (2-imidazoline-2-thiol)
- Lead bis(tetrafluoroborate)
- Lead(II) bis(methanesulfonate)
- Lead chromate
- Lead chromate molybdate sulphate red (C.I. Pigment 9 Red 104)
- Lead cyanamidate
- Lead di(acetate)
- Lead diazine, Lead azide
- Lead dinitrate
- Lead dipicrate
- Lead hydrogen arsenate
- Lead monoxide (Lead oxide)

- Lead oxide sulfate
- Lead styphnate
- Lead sulfochromate yellow (C.I. Pigment Yellow 34)
- Lead titanium trioxide
- Lead titanium zirconium oxide
- Methoxyacetic acid
- Methyloxirane (Propylene oxide)
- *N*-methylacetamide
- *N,N*-dimethylacetamide
- *N,N*-dimethylformamide
- *N*-pentyl-isopentylphthalate
- *N,N,N',N'*-tetramethyl-4,4'-methylenedianiline
- Nitrobenzene
- Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts
  - nonadecafluorodecanoic acid
  - ammonium nonadecafluorodecanoate
  - decanoic acid, nonadecafluoro-, sodium salt
- *o*-aminoazotoluene [(4-*o*-tolylazo-*o*-toluidine)]
- *o*-toluidine
- Orange lead (Lead tetroxide)
- *p*-(1,1-dimethylpropyl)phenol
- Pentacosafuorotridecanoic acid
- Pentadecafluorooctanoic acid (PFOA)
- Pentalead tetraoxide sulphate
- Pentazinc chromate octahydroxide
- Perfluorononan-1-oic-acid and its sodium and ammonium salts
- Phenolphthalein
- [Phthalato(2-)]dioxotrilead
- Pitch, coal tar, high temp.
- Potassium chromate
- Potassium dichromate
- Potassium hydroxyoctaoxodizincatedichromate
- Pyrochlore, antimony lead yellow
- Silicic acid, lead salt
- Silicic acid ( $H_2Si_2O_5$ ), barium salt (1:1), lead-doped
- Sodium chromate
- Sodium dichromate
- Sodium perborate; perboric acid, sodium salt
- Sodium peroxometaborate
- Strontium Chromate
- Sulfurous acid, lead salt, dibasic
- Tetraboron disodium heptaoxide, hydrate
- Tetraethyllead

- Tetralead trioxide sulphate
- Tricosafuorododecanoic acid
- Trichloroethylene
- Triethyl Arsenate
- Trilead bis(carbonate)dihydroxide
- Trilead diarsenate
- Trilead dioxide phosphonate
- Tris (2-chloroethyl) phosphate
- Trixylyl phosphate
- Zirconia Aluminosilicate, Refractory Ceramic Fibres

None of the board grades manufactured by Pankakoski Mill Oy contain any of the substances present on the Candidate list of Substances of Very High Concern for Authorization listed above.

After a specific regulatory process, SVHCs may be included in the Authorisation list and become subject to authorization. The “authorisation list” (known as Annex XIV of REACH) identifies SVHC that cannot be placed on the market or used after a given date unless authorization has been granted for their specific use or the use is exempted from authorisation:

- Ammonium dichromate
- Potassium chromate
- Acid generated from chromium trioxide and their oligomers
- Chromium trioxide
- Potassium dichromate
- Sodium chromate
- Sodium dichromate
- Trichloroethylene
- Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified:
  - Alpha-hexabromocyclododecane
  - Beta- hexabromocyclododecane
  - Gamma- hexabromocyclododecane
- 2,4 –Dinitrotoluene (2,4-DNT)
- Tris (2-chloroethyl)phosphate (TCEP)
- Diarsenic pentaoxide
- Lead sulfochromate yellow (C.I. Pigment Yellow 34)
- Lead chromate molybdate sulphate red (C.I. Pigment Red 104)
- Diarsenic trioxide
- Lead chromate
- Benzyl butyl phthalate (BBP)
- Bis (2-ethylhexyl)phthalate (DEHP)
- Dibutyl phthalate (DBP)
- Diisobutyl phthalate (DIBP)
- 1,2-dichloroethane (EDC)
- 2,2'-dichloro-4,4'-methylenedianiline (MOCA)

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- 4,4'-diaminodiphenylmethane (MDA)
- 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)
- Chromic acid
- Oligomers of chromic acid and dichromic acid
- Dichromic acid
- Arsenic acid
- Bis(2-methoxyethyl)ether
- Dichromium tris(chromate)
- Formaldehyde, oligomeric reaction products with aniline
- Hexabromocyclododecane (HBCDD)
- 1,2,5,6,9,10-hexabromocyclodecane
- Pentazinc chromate octahydroxide
- Potassium hydroxyoctaoxodizincatedichromate
- Strontium chromate

None of the board grades manufactured by Pankakoski Mill Oy contain any of the substances present on Annex XIV of REACH Regulation.

This statement is based on product recipes and information given by suppliers of the raw materials used in Pankakoski Mills products. This statement is valid until there is a significant change in the manufacturing process, product recipes or in the REACH regulation and contents of the SVHC-list. Pankaboard is committed to monitor on a regular basis ECHA's Candidate List and the legislative changes that may take place and subsequently commit to advise its customer without any undue delay should these changes in any way impact on the declarations made above and/or the continuation of supply of REACH-compliant products.

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**Pankakoski Mill Oy**

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