Fiberboard MDF-Turpentine Pilot Production

November 2025

CLASSEN Group

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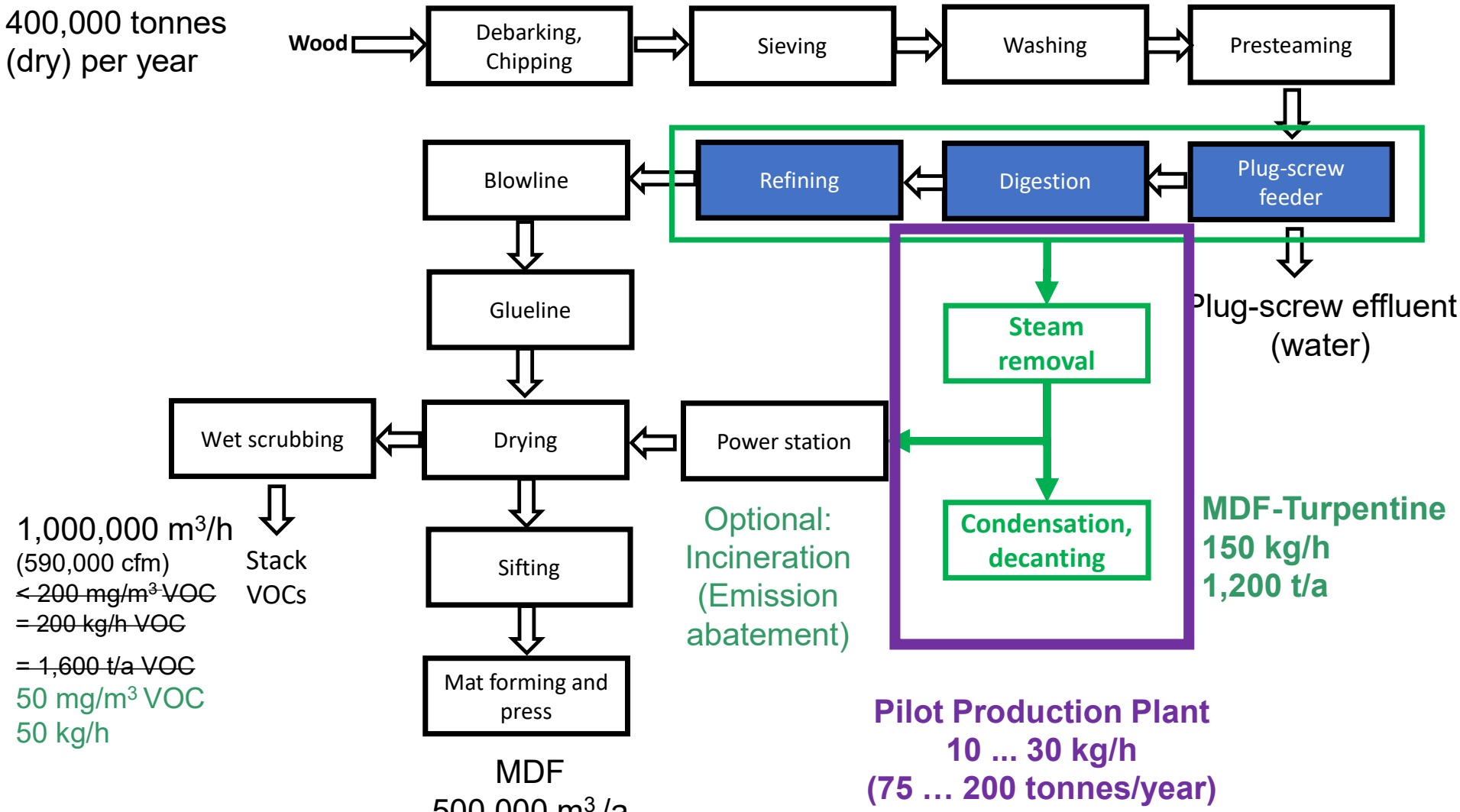
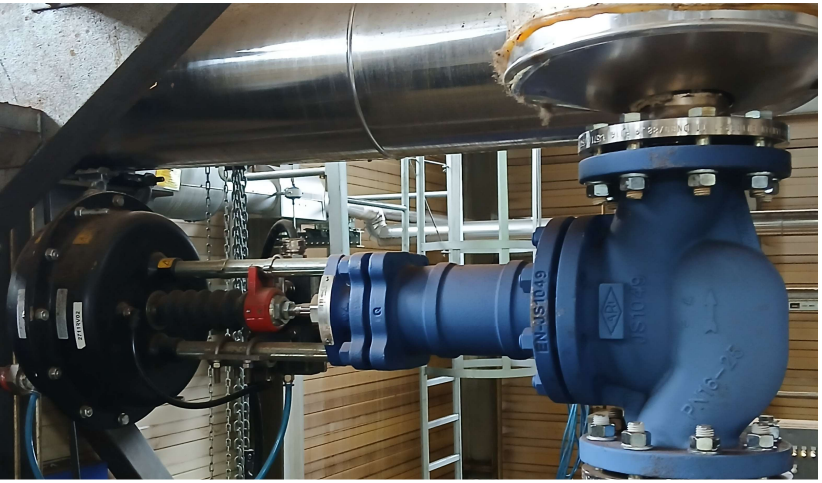
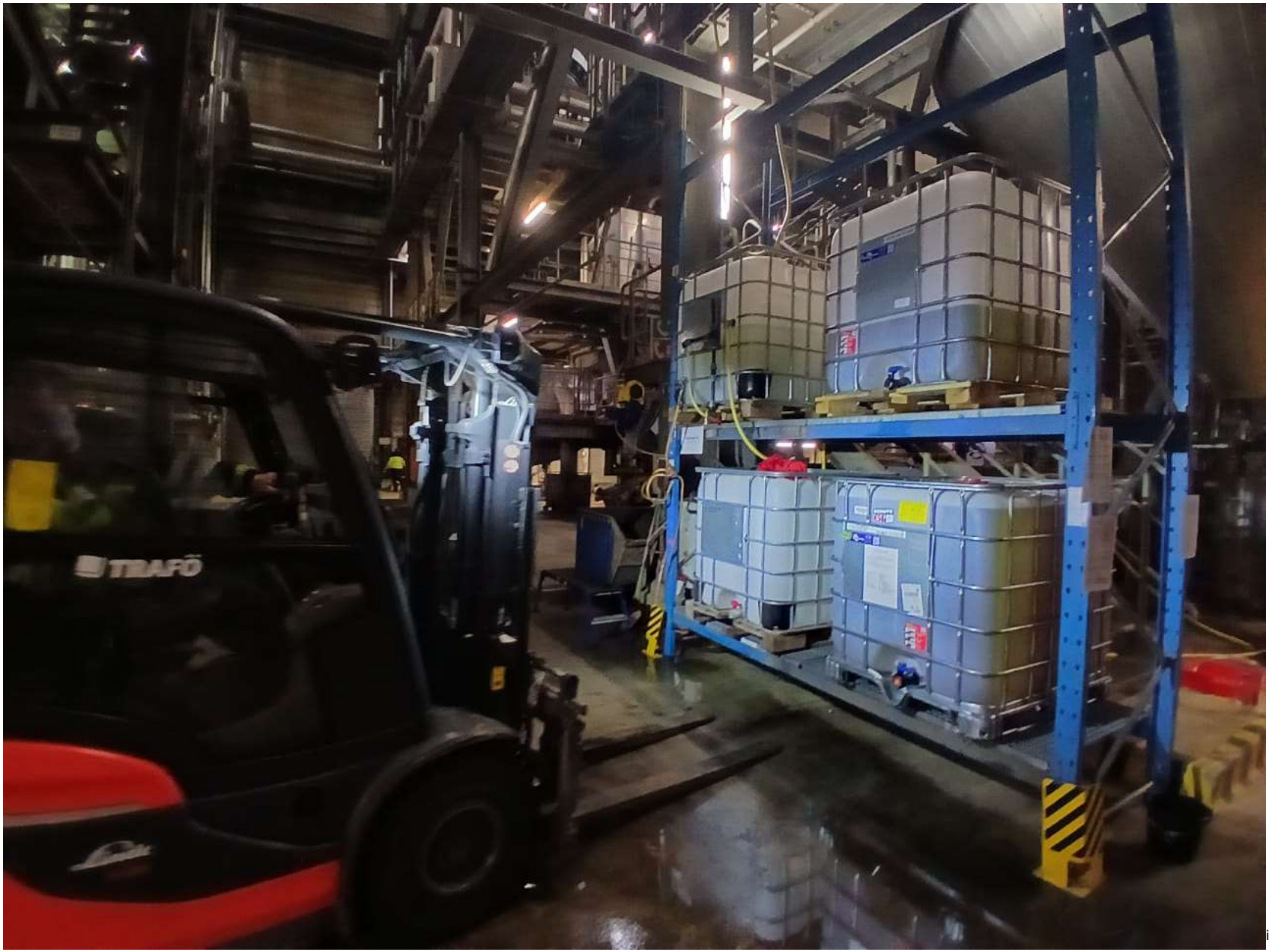
MDF Process, MDF-Turpentine production, **MDF-T pilot production plant**



MDF-T Pilot Production



Phase separator (oil-separator) and turpentine receiver



Bernd Bungert

ilot Production

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MDF-Quality assurance by Gas Chromatography

Product specification: **MDF-Turpentine** CLASSEN.

DESCRIPTION

Turpentine produced by MDF-Turpentine process based on steam processing of wood chips obtained principally from scots pine (Waldkiefer, Pinus Sylvestris) obtained from the MDF plant of Fiberboard GmbH in Baruth/ Mark, Germany.

SPECIFICATION

Appearance :	Clear	
Colour :	Almost colourless, slightly yellow	
Alpha Pinene content (%) :	47 (standard value);	40 (min)
Beta Pinene Content [%]:	5 (standard value);	2 (min)
Delta 3 Carene Content [%]:	30 (standard value);	37 (max)
Limonene content [%]:	4 (standard value)	
Sulfur content [ppm]:	3-3.3 (standard value);	3.5 (max)
Water content [%]:	0 (standard value);	0,1 (max)

TYPICAL PROPERTIES

Acid Number (mgKOH/gr) :	1-2 (typical value)
Relative Density [g/ml] :	0.865 (typical value
Flash point [°C]:	39-41
Kinematic viscosity [mm²/s]	1,18 (typical value)
Vapor pressure at 20°C [mbar]:	21 (typical value)

PACKAGING

Bulk Isotank or Intermediate Bulk Container

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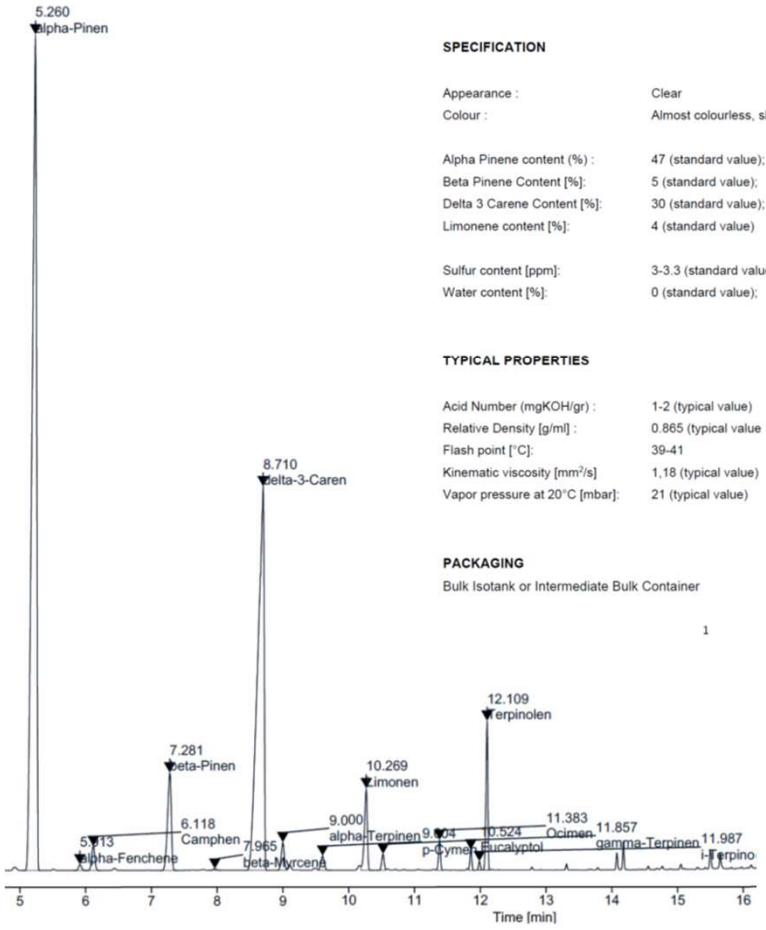
Classen MDF-Turpentine PDS R04
Author: Dr. Bernd Bungert
Approved: A. Hennig
Date: 2024-10-15



IBC storage, transport logistics, REACH

CLASSEN.

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 30.10.2024 *Version number 1* *Revision: 30.10.2024*

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· ***1.1 Product identifier***

· ***Trade name:*** **MDF Turpentine**

· ***EC number:***
932-349-8

· ***Registration number*** 01-2119553060-53-X

· ***UFI:*** Not applicable. Annex VII of the CLP Regulation does not apply.

MDF Turpentine

EC Number: 932-349-8/ Registration Number 01-2119553060-53-X

Formulation of odourants and odour end products, Intermediate, Industrial end use of detergents and cleaning agents

Details of the manufacturer:

Fiberboard GmbH, An der Birkenpfuhlheide 4, D-15837 Baruth/Mark, Deutschland

Tel. +49 33704 609-00, info@fiberboard.de, https://classengroup.com/

· *2.1 Classification of the substance or mixture*
· *Classification according to Regulation (EC) No 1272/2008*

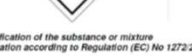
GHS02 flame
Flam. Liq. 3 H226 Flammable liquid and vapour.

GHS08 health hazard
Asp. Tox. 1 H304 May be fatal if swallowed and enters airw

GHS09 environment
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effec

GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· *2.2 Label elements*
· *Labelling according to Regulation (EC) No 1272/2008*
The substance is classified and labelled according to the CLP regulation.
· *Hazard pictograms*



· *Signal word* Danger
· *Hazard-determining components of labelling:*
Gum turpentine oil
· *Hazard statements*
H226 Flammable liquid and vapour.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.
· *Precautionary statements*
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take action to prevent static discharges.
P261 Avoid breathing mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P391 Collect spillage.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

MDF-T Pilot Production: Process Stability, Market Samples

- Pilot production: 10 kg/h … 30 kg/h (75…250 t/year, up to 20% of final production capacity)
- In operation since 2021, production rate increased in 2025
- Thorough investigation of
  - Process parameters of main MDF production, Process parameters of MDF-T process
  - Yield and turpentine composition
  - Raw material composition (70-100% pine, 0-20% spruce, 0-20% hardwood)
  - Hardwood types (beech, poplar, oak, ash, …)
  - Byproducts from decomposition of digestion process

- **Profound understanding of process and process stability accomplished**
- **The Classen MDF-T process has been optimized to avoid byproducts**
- **No influence on MDF-board quality (interal bond strength, swelling, …)**

- **The quality of MDF-Turpentine is (almost) like gum turpentine**

Contact

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Further information

Data sheets:

Product data sheet
https://prof.bht-berlin.de/fileadmin/labor/mvt/MDF-Terpentin/Classen_MDF-Turpentine_PDS_R04.pdf
Material Safety Data Sheet (German)
https://prof.bht-berlin.de/fileadmin/labor/mvt/MDF-Terpentin/sd17514_-_MDF-Terpentin__DE_DE_.pdf
Material Safety Data Sheet (Englisch)
https://prof.bht-berlin.de/fileadmin/labor/mvt/MDF-Terpentin/sd17514_-_MDF_Turpentine__EU_EN_.pdf
Material Safety Data Sheet (French)
https://prof.bht-berlin.de/fileadmin/labor/mvt/MDF-Terpentin/sd17514_-_Terebenthine_MDF__FR_FR_.pdf

Presentations:

PCA meeting **Dublin** 2023
https://prof.bht-berlin.de/fileadmin/labor/mvt/SHK/PCA_Bungert_MDF-T_2023-09-19.pdf
European Panel Federation **Brussels** 2024
https://prof.bht-berlin.de/fileadmin/labor/mvt/SHK/EPF_IED_working_group_Brussels_R01.pdf
Surfaces Eurasia **Istanbul** 2024
https://prof.bht-berlin.de/fileadmin/labor/mvt/SHK/Surfaces_Eurasia_2024-11-27_28_R01.pdf
PCA meeting **San Diego**
https://prof.bht-berlin.de/fileadmin/labor/mvt/SHK/PCA_meeting_San_Diego_Bungert_MDF-Turpentine_R01.pdf