



General safety training Mondi Frantschach GmbH

Gerald Klade

2023

Content General safety training

The following instructions are included:

- Work safety
- Management system for food safety of products according to FSSC 22000
- Waste separation
- Fire safety regulations
- VEXAT (Regulation of explosive atmospheres)

This instruction is valid:

- For all employees of Mondi Frantschach
- For short term employees and contractors

For better readability, only the masculine spelling is used in the text. Of course, this refers to all persons.



Work safety

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Integrated management system (IMS)

Beside the

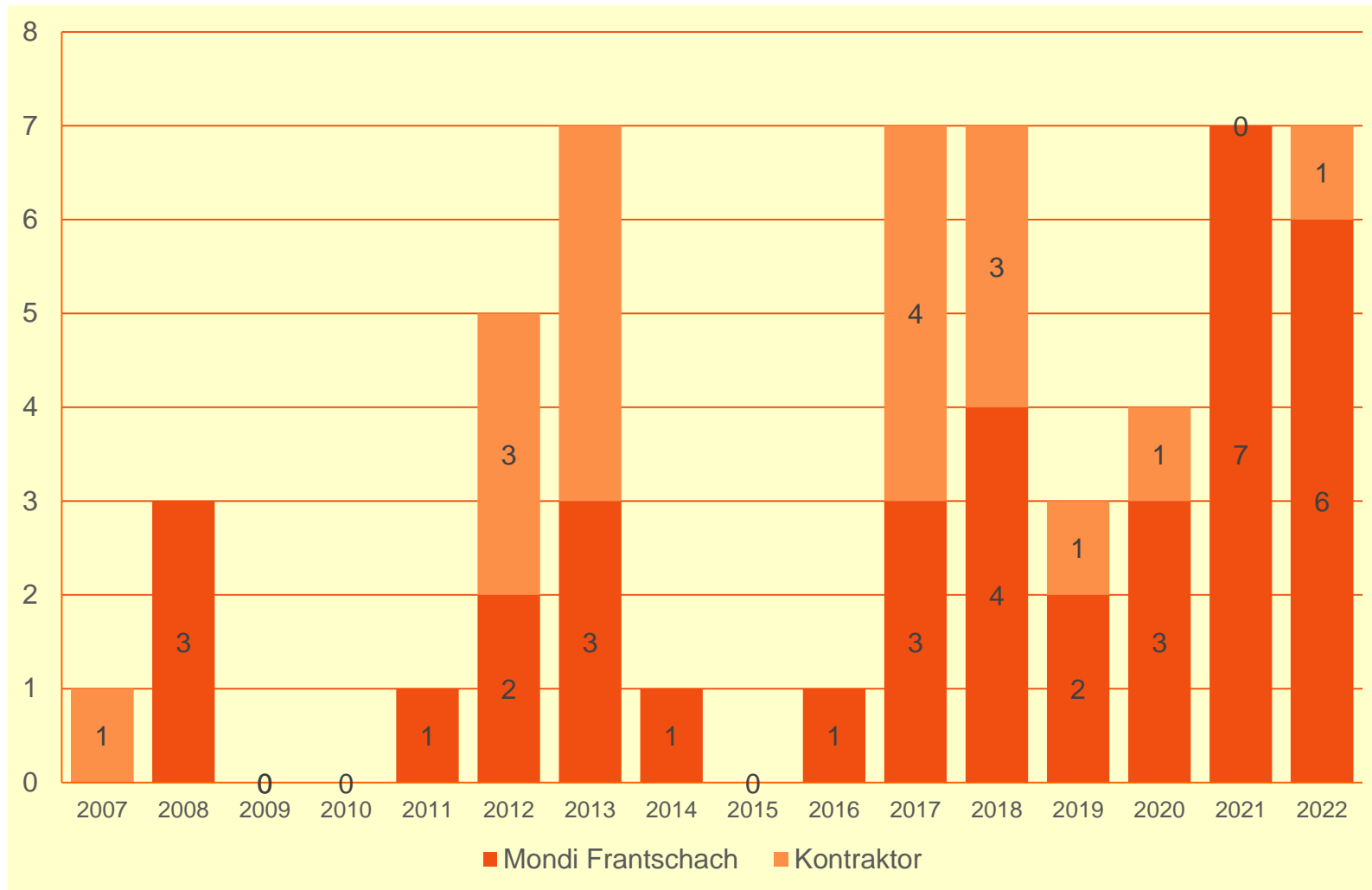
- **Safety- and Health management system (SGM)** **ISO 45001:2018**

we are also certified according to the management systems listed below:

- **Quality management System (QMS)** **ISO 9001:2015**
- **Environment management system (UMS)** **ISO 14001:2015**
- **Management system for food safety of products** **FSSC 22000**



Lost time injuries since 2007 > 1 Working day



9 Mondi Safety rules

Rule One:

- Work with a valid permit when required.

Rule Two:

- Respect speed limits, keep travelling paths, using seat belts and only use a mobile phone with hands-free equipment while driving.

Rule Three:

- Obtain authorisation before entering a confined space and take the necessary precautions.

Rule Four:

- Protect yourself against falling when working at heights.



Sicherheitsregel 1

ANSUCHEN UM ARBEITSERLAUBNIS & KONTROLLE VON VERÄNDERUNGEN

Sind die Änderungen an den Anlagen, Maschinen und des Umfeldes dokumentiert?
Sind Sie und das Personal geschult?



Sicherheitsregel 2

BEDIENEN VON MOBILEN ANLAGEN UND GERÄTEN

Sind Sie sich der Gefahren mobiler Anlagen und Geräte bewusst?



Sicherheitsregel 3

ARBEITEN IN ENGEN RÄUMEN

Sind Sie sich der Gefahr beengter Räume bewusst?
Sind Sie sich der Wichtigkeit einer Arbeitsbewilligung für beengte Räume bewusst?



Sicherheitsregel 4

ARBEITEN IN HÖHEN

Sind Sie ausreichend gegen Absturz gesichert?

9 Mondi Safety rules

Rule Five:

- Test isolation before work begins and use specified life-saving equipment.

Rule Six:

- Obtain authorization before overriding or disabling protective equipment.

Rule Seven:

- Do not stand or walk under a suspended load.

Rule Eight:

- Conduct a chemicals assessment and wear specified PPE when required

Rule Nine:

- Work in forest
Not relevant for Mondi Frantschach



Sicherheitsregel 5

ISOLIERUNG VON ENERGIE UND MASCHINEN

Haben Sie die Maschine so abgesichert, dass Sie ohne Risiko arbeiten können?
AUS+SICHERN



Sicherheitsregel 6

SICHERES ARBEITEN AN LAUFENDEN UND ROTIERENDEN MASCHINEN

Sind alle Schutzvorrichtungen in Funktion?
Sind Sie sich der Gefahren bewusst, wenn Sie bei laufenden Maschinen arbeiten müssen?



Sicherheitsregel 7

DURCHFÜHREN VON HEBEARBEITEN UND MATERIALTRANSPORT

Beim Transport von Materialien ist auf den persönlichen Schutz und den Schutz der Mitarbeiter zu achten!



Sicherheitsregel 8

UMGANG MIT CHEMIKALIEN UND GEFÄHRLICHEN SUBSTANZEN

Sind Sie sich der Gefahren beim Umgang mit Chemikalien bewusst?
Was haben Sie in Notfallsituationen zu tun?

Toolbox Talks

- There are separate "Toolbox Talks" incl. knowledge checks for each Mondi safety rule. These can be assigned to individual employees by the department management via the LMS (learning management system).



Terms

- **General safety instruction (according to §14 AschG)** => 1x per year training by the supervisor
- **Workplace-related safety instruction** => safety instruction specifically related to the workplace must be demonstrably carried out by the respective supervisor before starting work for the first time and once a year in accordance with the departmental documents (e.g. ZIH, PF, ZF, HP, RDIC).
- **Work accidents**
 - Location, time and causal connection with the work must be recorded at the same time.
(must be reported to the supervisor immediately)
- **Accidents on the way to or from work**
 - Accidents on the way from or to the workplace (also on the way to the doctor or bank => life-saving measures
(must be reported to the supervisor immediately)
- **Work related illnesses**
 - Work-related illness. (List of 52 occupational diseases. These are listed in the ASVG Appendix1)

SHE Software - Syneris

- **Incidents (reporting in the SHE software)**
 - A – personal injury, with losttime
 - B – personal injury, without losttime
 - C – no personal injury, with property damage
 - D – no personal injury, without property damage
- **Reporting of environmentally malfunctions**
- **Assignment of instructions**
- **E-learning with knowledge verification**
- **Preparation of safety & health documents**

This software can be accessed in Mondi Intranet

Vorfallsbericht 

Kategorie D - ohne Personenschaden ohne Sachschaden

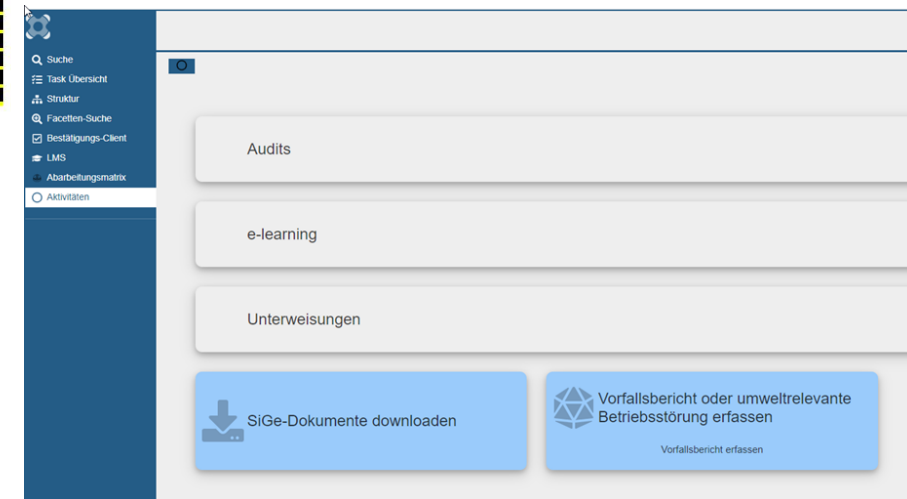
Vorfallszeitpunkt: 01.01.2023 06:00:00	Arbeitsplatz:
Bereich: Radl Andreas	Erstellt am: 02.01.2023 10:57:34
Erstellt von: Verletzungsart:	Ausgang bis: 16.01.2023

Kurzbeschreibung: Austritt von Kalkschlamm-Weisslaugengemisch beim KASL-Sammelbehälter WLF

Hergang: Durch eine defekte Dichtung trat beim Kalkschlammbehälter Weisslaugenfilter Kalkschlamm bzw. Weisslauge aus und gelangte ins Erdgeschoss. Ursache: Defekte Dichtung

Erkenntnis/Maßnahmen: Gefahrenbereich wurde abgesperrt. Kautschukanlage musste abgestellt werden und die defekte Dichtung wurde gewechselt





General prohibitions

- **Smoking is prohibited**
with the exception of areas marked as smoking zones.
- **Consuming alcohol and drugs is prohibited**
 - Persons who are clearly affected by medication, alcohol or drugs must leave the mill
- **Cycling ban**
 - on ice and snow and in the area of rail facilities
 - when you drive with a bike you must wear a helmet with chin strip.



Access regulations

- Access to the factory premises is only permitted via the reception desk or via the turnstiles with a chip card.
- Driving onto the mill premises or bringing private bicycles into the factory is prohibited.
- If a car has to be driven into the plant premises, only the driver may sit in the vehicle. All passengers must enter the plant via the turnstiles.
- Without safety shoes, people are only allowed to walk to and from work/changing rooms (also on the safety routes).
- Employees in office buildings or in offices do not need safety shoes while working in their area.
- During working hours, persons present in the plant area **SHOULD** also use this safety walkway. (Exception: in the course of a direct activity)



Signs for personal protective equipment (piktogram)



- Helmet



- Safety goggles



- Gloves



- Protective suit (chemical protective suit, dust suit)



- Hearing protection (>80 dBA recommended, >85 dBA mandatory)



- Safety shoes
(conductive safety according EN ISO 20345 bzw. EN 61340-5-1)

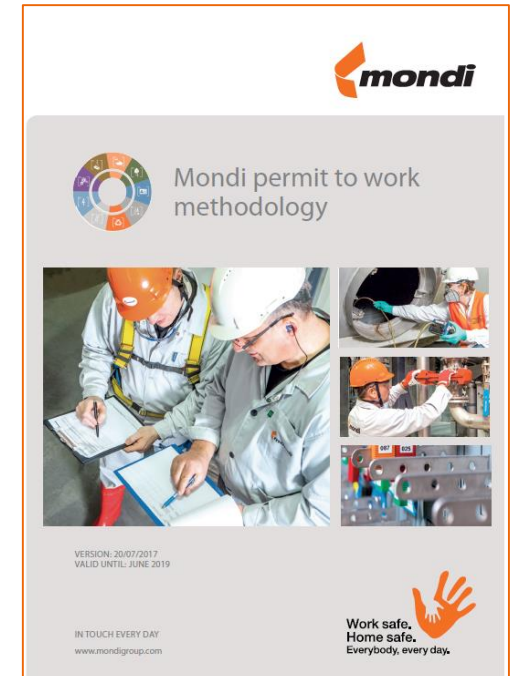


Sign for conductive

Rule 1 Work permit (1/4)

- For the following work, there must be a completed and **approved work permit** with risk assessment (including required release certificates)! (according to the Mondi “Permit to Work” methodology!)

Minimum activities requiring permit to work	
1	Working at heights above 2m where there is a risk of falling and requires the use of fall arrest equipment.
2	Confined Space Entry.
3	Hot work outside designated hot work areas (any activity capable of producing flames, sparks heat generation or any other forms of ignition).
4	Non-operational lifting activities.
5	<p>Service, maintenance and/or installation of equipment with potential exposure to hazardous energy (Any source of electrical, mechanical, hydraulic, pneumatic, chemical, ionising radiation or thermal energy and explosive atmospheres, cutting and tie-ins into lines including pipeline breaking where hazardous materials are present or could be present or where the line is under pressure or above 50° or less than -5°).</p> <p>Note 1: When electrical testing is conducted on equipment with a voltage of 400 volts or less, no permit to work is required.</p> <p>Note 2: When LOTO is performed by the operating/maintenance personnel of the equipment by local isolation point and this person him/herself will conduct the task, a permit to work is not required, however a risk assessment and safe operating procedure is required.</p>



Rule 1 Work permit (2/4)

- For the following work, there must be a completed and **approved work permit** with risk assessment (including required release certificates) according to the Mondi “Permit to Work” methodology!

6	Excavations and trenches deeper than 1m.
7	Demolition activities and break-ins (breaking through building structures).
8	Use of high-pressure devices above 200 bar (water cleaning, cutting, sandblasting, etc.).
9	Handling of asbestos-containing-material.
10	Working on high voltage equipment (above 400 volts) where there is exposure to the energy source and or no suitable arc flash elimination, substitution or engineering protection.
11	Work on live equipment where safety devices are compromised or isolation and lockout cannot be used (machine set up, alignment, testing, etc.).
12	Scuba diving and surface provided air diving activities (approval from Group Head of Safety and Health)



Not relevant for Mondi Frantschach

The poster features the Mondi logo at the top right. Below it is a circular diagram with various colored segments. The text 'Mondi permit to work methodology' is prominently displayed. The central part of the poster is a collage of four images: two workers in white protective suits and hard hats reviewing documents, a worker in a white suit and orange helmet working on a large piece of machinery, a worker in a white suit and orange helmet working on a smaller piece of machinery, and a worker in a white suit and orange helmet working on a large piece of machinery. At the bottom left, it says 'VERSION: 20/07/2017' and 'VALID UNTIL: JUNE 2019'. At the bottom right, it says 'IN TOUCH EVERY DAY' and 'www.mondigroup.com'. At the very bottom right, there is a logo of a hand with the text 'Work safe. Home safe. Everybody, every day.'

Rule 1 Work permit (3/4)

Main regulations:

- A work permit is required for all activities that do **not occur on a regular basis** in the mill or ONCE in a while on request of the departments for maintenance work.
- Always consider what hazards and consequences may occur before starting work.
- Operating areas are only entered after notification in the control room.
- Before maintenance work, machines and systems must be properly switched off and secured. (**Aus + Sichern**).
- Pay attention to safety instructions and piping markings. Before opening flanges or fittings, obtain information from operators about substances contained therein and their potential hazards.
- The **risk assessment** must be carried out before starting work.

Rule 1 Work permit (4/4)

- Permit to Work
- Hot works
- Confined space
- Scaffolding
- Electro precipitator
- Medium- / High voltage rooms
- Sources of radiation

Rule 2 Operating cranes and vehicles

- The operation of cranes and vehicles (forklifts, mobile cranes, overhead cranes ...) is only permitted with a forklift or crane license and an internal driver's license.
- El. manual lifting equipment- instruction by supervisor and internal driver's license.
- Seat belt obligation
- Telephone calls only allowed with hands free equipment
- The road traffic regulations apply
- Rail vehicles have the right of way



Everyone takes responsibility for safety in their own work environment and must watch out for their colleagues too!

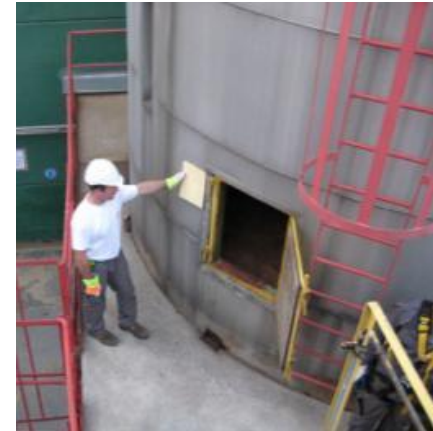
Rule 3 Confined space (1/2)

Terms:

- **Tanks and confined spaces** are operating facilities that are sealed off from their environment to a considerable extent and thus have only a slight exchange with the ambient air. In addition to containers, this also includes silos, shafts, pits, ducts and pipelines.
- **Access** means all activities/work, such as maintenance, servicing, cleaning work or troubleshooting, during which the worker is in the tank, silos or confined spaces.

Features:

- They are not designed for the permanent presence of people
- There are only a limited number of inlet and outlet openings
- Hazardous gases may exist or be formed, or
- materials are present that can flood or trap the entrant, or
- they are designed in such a way that the entrant could become trapped or suffocate.



Rule 3 Confined space (2/2)

Safety regulations:

- Fill out the confined space permit and release by a competent person of the department (first line manager)
- Gas free measurement before entering
- Exact compliance with the measures of the confined space permit
- Stand by person must present at all times when entering the confined space (record of persons in the confined space)
- If there are no more persons in the confined space, access must be blocked.



Rule 4 Working at Heights (1/2)

Definition:

- Whenever working at a height of **more than 2 meters**, fall protection must be used if there is a risk of falling. Reason: This is due to the fact that this is the distance that a free-falling human body needs to turn completely around.

Scaffolding:

- All scaffolding work must be performed in accordance with the applicable standards and regulations in Austria or according to the “Mondi Scaffold Requirements”!
- Scaffolding may only be prepared and approved by trained specialty personnel.
- A “**helmet with chin straps**” must be worn on scaffolding (working at heights)!



Rule 4 Working at Heights (2/2)

Moving elevating platform:

- During any movement of the lifting platform, all persons in the working platform (basket) must maintain "3-point contact". This means that both feet are on the floor of the basket and at least one hand is holding on.
- Only instructed persons may operate lifting platforms.
- Workers who are in the work cage must wear a **helmet with chin strap** and **safety harness** and attach it to the anchor point in the work cage. The standing position in the workman basket must not be raised. The use of webbing fall arresters is not permitted.
Recommendation: fall arrester with built-in brake.
- The danger area below must be cordoned off.
- When used, perform a function and visual check in accordance with the operating instructions..



Rule 5 Isolation of energy

Personal lock:

- Every Mondi employee and contractor must ensure that they have a personal lock and that this is also used in accordance with Mondi regulations (one man - one lock).
- Every person working at the workplace has to secure himself with his personal lock. This must be clearly identifiable => **name and telephone number**.



Role 6 Moving and rotating machinery

General:

- Work is prohibited at unsecured nip points.
- Obtain authorization from the person in charge before overriding or disabling a safety-protective device.
- Report any damaged or missing safety-protective equipment.
- It is forbidden to approach running and rotating machines with ties, scarves, neckerchiefs or open long hair.

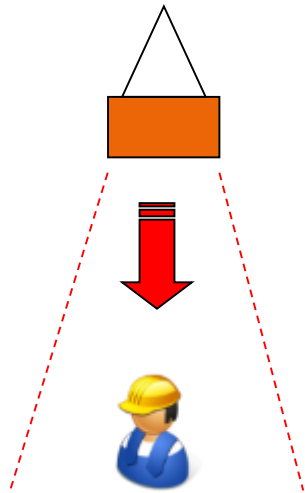


Rule 7 Lifting (1/2)

Terms Fall- and Danger zone:

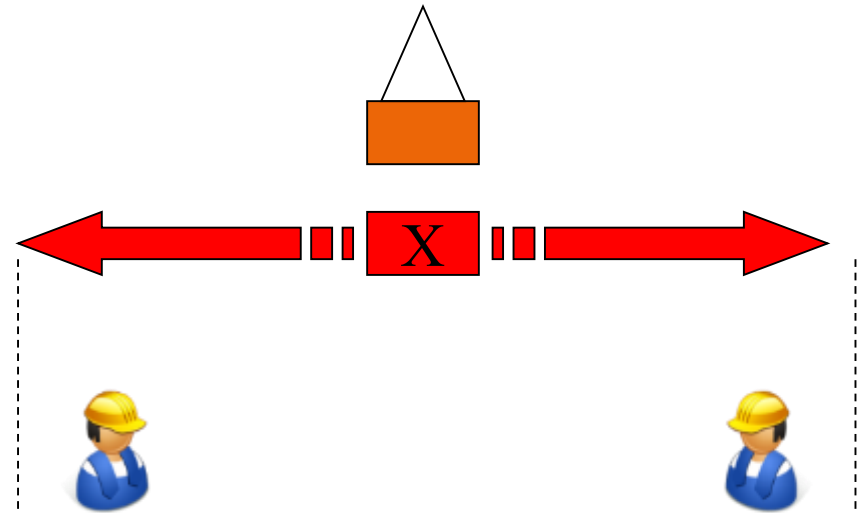
What is the **fall zone**?

The area directly underneath the hanging load



What is the **danger zone** ?

The area around the hanging load along the line over which the load is moved



- While lifting the fall- and danger zone is not allowed to enter
- **Cardinal rule:** Never stay under suspended load.

Rule 7 Lifting (2/2)

General:

- Compliance with all points according to work permit "Supplementary" Non-operational lifting work

8 Nichtbetriebliche Hubarbeiten - Mobilkräne (Ausführender) <input type="checkbox"/> Nein		
<input type="checkbox"/> Hublastplan vorhanden >10t bzw. bei Einsatz mehrerer Kräne (Beilage)	<input type="checkbox"/> Aufstellungsort, Abstützung, Stabilität, erforderlicher Platz und Bewegungsradius für sicheren Hubvorgang vorhanden	<input type="checkbox"/> Absperren der Gefahren- Fallzone bzw. Zutrittsverbot
<input type="checkbox"/> Max. zu hebende Last:	<input type="checkbox"/> Kranhaken mit Sicherheitslasche	<input type="checkbox"/> Bewertung Witterungsbedingung und Windgeschwindigkeit vor Hubbeginn
<input type="checkbox"/> Richtige Anschlagmittel verwendet (Prüfung) gemäß AM-VO, Dimensionierung	<input type="checkbox"/> Sichtprüfung der Hubgeräte und Lastaufnahmegeräte vor Hubvorgang	<input type="checkbox"/> Heiße freistrahkende Anlagenteile (Kamin, Kalkofen...) bzw. Stromleitungen im Hebebereich
<input type="checkbox"/> Führungsseile, -stangen zum Manövrieren der Last vorhanden (Vermeidung von Quetschgefahren)	<input type="checkbox"/> Unterirdische Schächte, Kanäle, Hindernisse im Hebebereich	<input type="checkbox"/> Kommunikation mittels Funk, Handsignale

- Lifting areas must be demarcated (danger zone) and signed
- "Tag Lines" (tag sticks) must be used during lifting operations to prevent:
 - the load from swinging
 - when manual handling is required to position the load
- Crane operator must not start lifting while someone is in the danger zone

ABSPERRUNG

• Grund:

• Dauer:

• Firma:

• Name des Verantwortlichen:

• Telefonnummer:

• Datum:

Wichtig! Nur bei Einweisung!



Rule 8 Hazardous substances (1/2)

General:

- Observe the safety instructions in the safety data sheet.
- Be sure to use the proper personal protective equipment (PPE) as specified in the work permit.
- Know the location of the nearest emergency shower and eye wash bottle.
- If a chemical burn does occur, seek an emergency shower immediately. A long rinse with water is absolutely necessary.

Definition of acids and alkali:

➤ Acids:

Acids or their aqueous solutions, which are considered to be hazardous substances, are highly corrosive substances which, depending on the temperature, concentration and exposure time, can strongly irritate or destroy living tissue.

➤ Alkalis:

Alkalis and their aqueous solutions are strongly-reacting alkaline substances which, depending on temperature, concentration and exposure time, can strongly irritate or destroy living tissue. They are generally more corrosive than acids.



Rule 8 Hazardous substances (2/2)

Personal protective equipment (PPE)

- Safety helmet with protective visor
- Tight-fitting safety goggles
- Chemical-resistant protective suit
- Chemical-resistant protective gloves
ATTENTION: ensure they are worn properly
(Are the ends of the gloves pulled over the suit – yes/no?)
- Rubber boots
- If the protective clothing becomes contaminated, it must be rinsed with a sufficient amount of water
- The PPE to be worn in each case, is to be used according to the evaluation of the workplace or according to the work permit.



Sources of radiation

- Radiation areas and sources of radiation are marked with a yellow sign or label
- Staying in a radiation protection area is only permitted for persons who are equipped with a dosimeter (persons exposed to radiation). Stay only as long as is absolutely necessary
- If work has to be carried out in the area where there are sources of radiation, the sources of radiation must be shut off by specially trained persons => permit necessary
- Employees of the electrical workshop shut off the sources of radiation

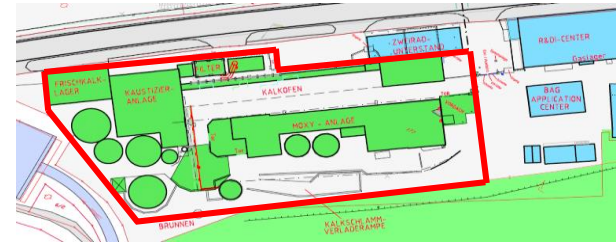
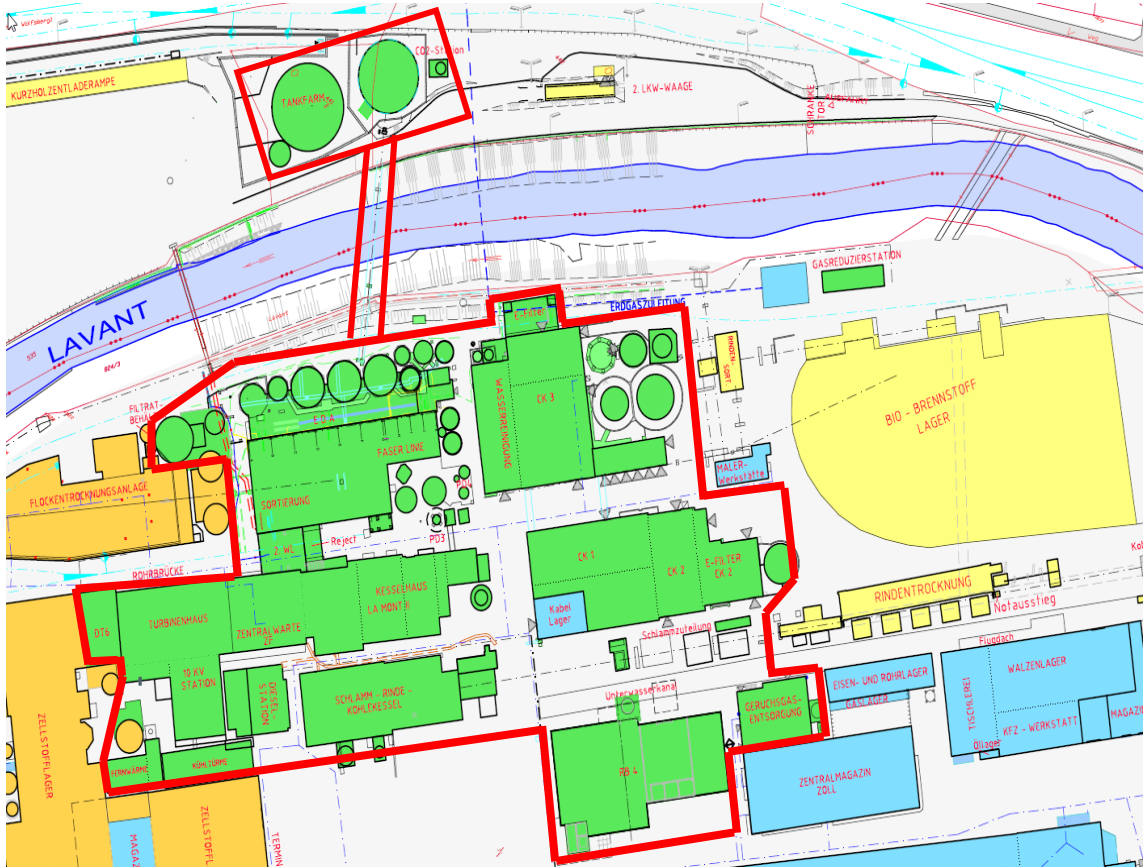


Freigabeschein		Ventilbicherung, Strahlungsquellen, Elektrotfilter		mond	
Spalte		Kategorie		Unternehmen	
Name					
Ort					
Ventilbicherung (EMRT)					
Messkreis	Ort / Bemerkung	Messkreis	Ort / Bemerkung		
Geöffnet von	Datum / Uhrzeit	Unverändert			
Wartung von	Datum / Uhrzeit	Unverändert			
Strahlungsquelle (EMRT)					
Messkreis	Ort / Bemerkung	Messkreis	Ort / Bemerkung		
Geöffnet von	Datum / Uhrzeit	Unverändert			
Wartung von	Datum / Uhrzeit	Unverändert			
Elektrotfilter (EMRT)					
Messkreis	Ort / Bemerkung	Messkreis	Ort / Bemerkung		
Geöffnet von	Datum / Uhrzeit	Unverändert			
Wartung von	Datum / Uhrzeit	Unverändert			
BEACHTEN:					
<ul style="list-style-type: none"> • Diese Bescheinigung ist nur für den Bereich der Strahlungsquellen, Elektrotfilter und Ventilbicherung gültig. • Die Bescheinigung ist nur für den Bereich der Strahlungsquellen, Elektrotfilter und Ventilbicherung gültig. • Die Bescheinigung ist nur für den Bereich der Strahlungsquellen, Elektrotfilter und Ventilbicherung gültig. • Die Bescheinigung ist nur für den Bereich der Strahlungsquellen, Elektrotfilter und Ventilbicherung gültig. • Die Bescheinigung ist nur für den Bereich der Strahlungsquellen, Elektrotfilter und Ventilbicherung gültig. 					

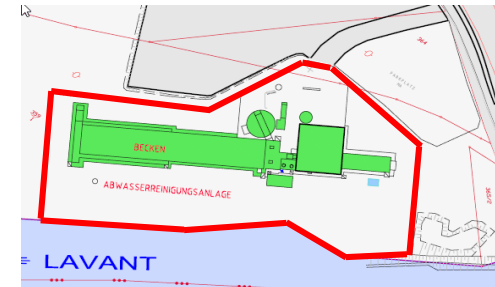
Special rules pulp mill

Protective eyewear obligation

In the red marked area of the pulp mill you must wear protective goggles.



- Causticizing / lime kiln



- Waste water treatment

Exceptions:

- Blue marked walkways or visitor paths
- Control rooms, MSR rooms, sanitary facilities and social rooms
- Gas reduction station

- Fibreline, evaporation, power plant, bark boiler, recovery boiler, GGE

Special hazards in the pulp mill

➤ In the area of the pulp mill, there are special hazards

- Chemical burns from acids, alkalis, lime, chemicals
- Burns from steam, hot surfaces and media
- Remote-controlled systems and automatically starting machines



➤ Personal Protective Equipment

- Head protection helmet
- Hearing protection in the designated areas
- **Eye protection** **Protective goggles or helmet with visor**
- Protective clothing Long uniform trousers and long-sleeved uniform blouse
- Foot protection Safety shoes



Special hazards - (H₂S)

- Access to the areas in the pulp mill is only permitted with a personal H₂S warning device - an acoustic alarm sounds in case of an alarm
- Stationary gas warning systems are installed in the following areas - in case of an alarm, a siren is triggered and the all-round lights at the entrance doors are activated
 - Fiber line (cooking, sorting, evaporation plant)
 - Recovery boiler RB4, odour gas disposal system
- **What to do if a danger alarm starts**
 - All work must be stopped immediately and secured
 - The facility must be vacated immediately - the use of elevators is prohibited.
 - Entering or re-entering the building is strictly forbidden.
 - The instructions of the operating personnel must be followed.
- Entering the building and resuming work is only permitted after approval by the foreman of the pulp mill



Hazard alarms in the area recovery boiler

- **Entering and leaving the building recovery boiler RB 4**
 - Entering and leaving the RB 4 must be reported in the central control room (phone 04352 / 530-403)
- **In a dangerous situation, an evacuation alarm is triggered (siren and / or flashing lights)**
- What to do if a danger alarm starts:
 - All work must be stopped securely.
 - Immediately leave the building following the marked escape routes and go to the “canteen” assembly point. The use of elevators is prohibited!
 - Protective masks are available in the elevators and must be used if necessary.
 - Two oxygen bottles are installed in elevator CK3 for emergencies (lack of oxygen due to heavy smoke development), which can be opened if necessary.
 - The instructions of the operating staff must be followed.
- Entering the building and resuming work is only permitted after approval by the foreman of the pulp mill



Hazard alarms in the area caustification / lime kiln

Warning shooting activities with an industrial cannon at the lime kiln

- Before starting any shooting activities at the lime kiln, an optical alarm (flashing lights) is activated on all entrance doors of the causticizing and lime kiln building. It is forbidden to enter the building in question.
- People who are in the building are requested by the operating staff to leave the building.
- Re-entering the building is only permitted after the alarm (strobe lights) has been lifted.



Acid wash

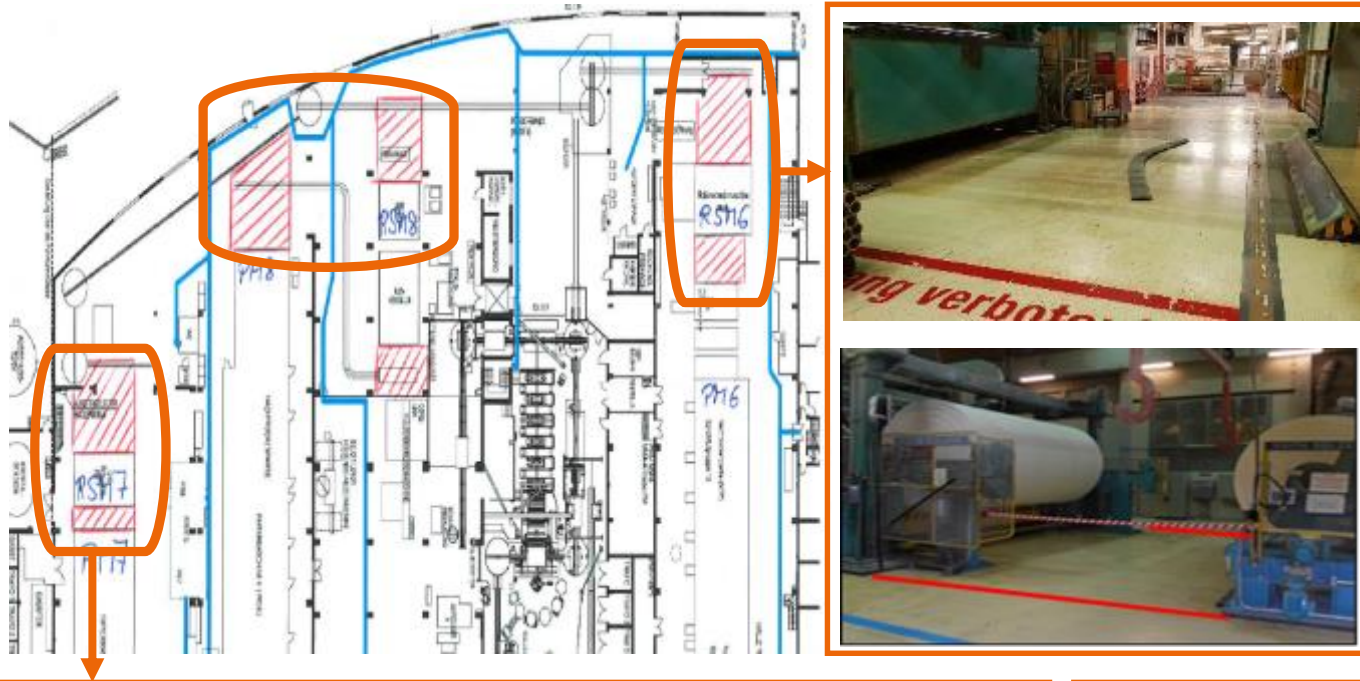
- Before the start of an acid wash, the affected area is cordoned off by the operating staff. A corresponding visual notice for an ongoing acid wash is activated. Entering the corresponding areas is prohibited.
- People who are in the corresponding areas are requested by the operating personnel to leave them.
- Re-entering the corresponding areas is only permitted after the barriers have been dismantled and the visual notice has been deactivated.



Special rules paper mill

Specific regulations (1/5)

It is forbidden to walk in front of the pope reel to winder of each paper machine
(see sketches for designated areas)

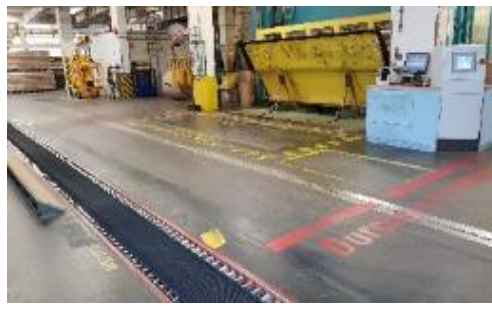


The area may only be entered by:

- Operating staff performing **direct work** in the hazard area
- Sleeve wagon for PM7
- Maintenance staff performing **direct work** (must be noted on the work permit) in the hazard area

You may only use the area when:

- Transporting chemicals
- Transporting rollers
- Delivery work
- Removal of secondary items and rollers



PM8: You are not permitted to walk in this area when the warning light is on

Specific regulations (2/5)

Prohibition of passage through hall 5, new pulp storage hall



The area may only be entered by:

- Employees of flash dryer plant
- Employees of loading department
- Supervisor from loading department and paper mill
- Management papermill / MD
- Maintenance employees only if work or checks are carried out in this area



**Zutritt nur für
hier beschäftigte
Personen**



AUDITS in this area must always be reported to the foreman loading department!

Specific regulations (3/5)

Prohibition of passage role storage



The area may only be entered by:

- Employees of flash dryer plant
- Employees of loading department
- Supervisor from loading department and paper mill
- Management papermill / MD
- Maintenance employees only if work or checks are carried out in this area

**Zutritt nur für
hier beschäftigte
Personen**



If AUDITS in this area will be done or guides tours, you must inform the foreman loading department!

→ Flash light must be switched on!

Specific regulations (4/5)

Prohibition of passage „Fremdzellstoffauflöseanlage (FZA)“



The area may only be entered by:

- Employees of „Fremdzellstoffanlage“
- Employees of loading department
- Supervisor from loading department and paper mill
- Management papermill / MD
- Maintenance employees only if work or checks are carried out in this area

**Zutritt nur für
hier beschäftigte
Personen**



AUDITS in this area must always be reported to the FLM paper mill!

Specific regulations (5/5)

Prohibition to enter „Alte Hackerei“



The area may only be entered by:

- Employees of „Fremdzellstoffanlage“
- Employees of loading department
- Supervisor from loading department and paper mill
- Management papermill / MD
- Maintenance employees only if work or checks are carried out in this area



AUDITS in this area must always be reported to the foreman loading department!

Mill-specific regulations – using knives

- Preference must be given to use **safety knives**
- Paperknives with fixed blades **PROHIBITED**
- Stanley knives with snap-off blades are **PROHIBITED**
 - Hygiene regulations
 - Increased risk of injury
- When using knives (except slice cutters) your free hand **must** be protected with a “cut-resistant glove” from cut protection class F.
- Making aids for cutting work (e.g., see photo) **PROHIBITED.**



Mill-specific regulations – work with angle grinder

- Wear the necessary additional PPE (face protection with safety goggles, long-sleeved clothing, leather gloves)
- The angle grinder must have a protective guard and a handle
- Do not use broken or compromised discs
- All electrical work equipment must be inspected and marked annually (according to ÖVE/ÖNORM E 8701-1/-2) by a qualified electrician.
- Only inspected devices may be used.



Millwide markings of channels

- Precautionary measures must be taken to prevent water pollution and when storing and handling water-polluting liquids!
- In case of minor incidents (e.g., leakage of a liquid product), immediate action must be taken with the operator in order to limit the damage.

Location of „Kanaldichtkissen“: Emergency container pulp mill, Celler PM 8, Flash dryer system, woodyard

Marking of the drains within the plant area:

Sewage drain
(Water treatment assoc. Lavanttal)



Green-yellow

Wastewater drain
(ARA)



green-red

Clean water drain
(Lavant)



green

Chain of rescue – what to do in a case of emergency

Important phone numbers:

- Reception/central control station: 214
- Rescue: [0] 144
- Fire department: [0] 122
- Police: [0] 133
- Emergency number for poison: [0] 01-4064343
- Euro emergency call [0] 112

NOTRUF für rasche Hilfe im Notfall	
Feuerwehr	122
Polizei	133
Rettung	144
Ärztentruf	141
Bergrettung	140
Wasserrettung	130
Euro-Notruf	112
Vergiftungsnotruf	01-4064343
Kinderschutz-Hotline	0800-202050

- WO wird Hilfe benötigt?
- WAS ist passiert?
- WIEVIELE Verletzte gibt es?
- WER ruft an?



Immediate life-saving measures:

- Securing / rescuing
- Stable lateral positioning
- Defibrillation, ventilation and cardiac massage
- Hemostasis
- Anti-shock measures
- Guide in rescue teams
- Clear the access route
- Always stay calm and exercise caution

What to do in case of a mill-wide emergency



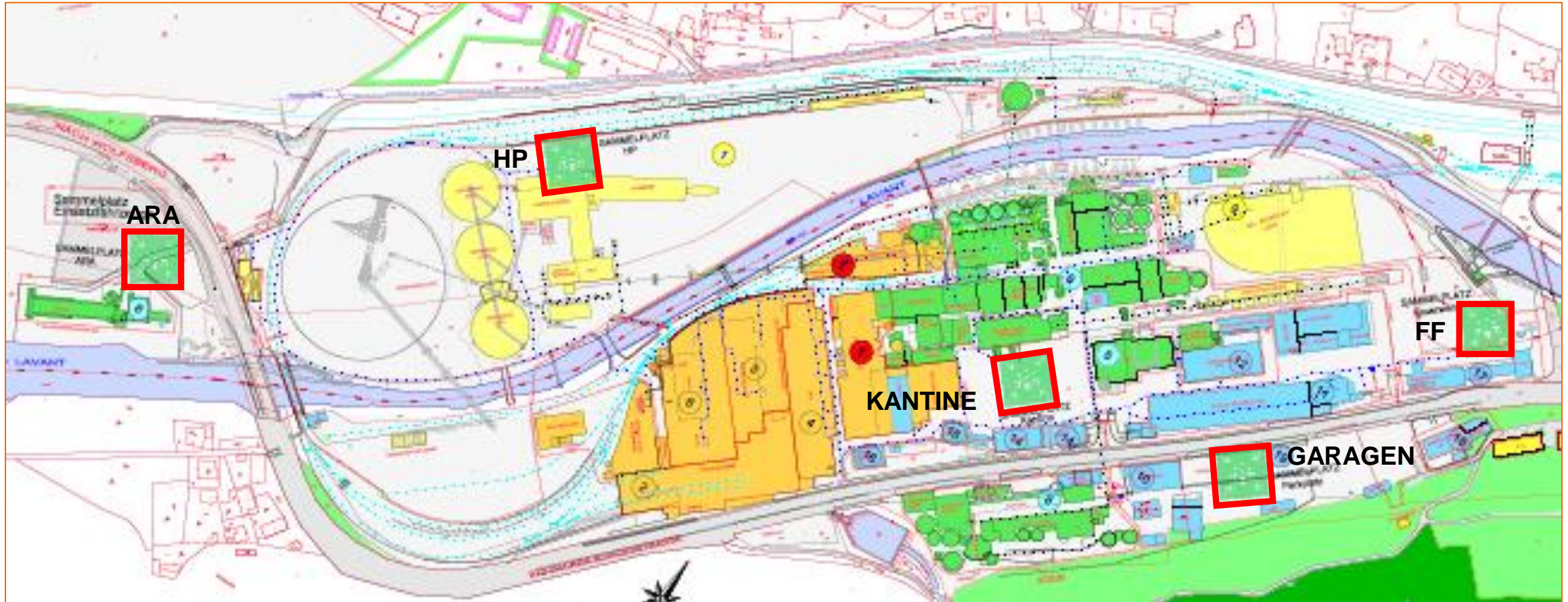
- In order to have an overview of how many people are in our plant during a factory-wide emergency (evacuation), there are meeting points based on the fire protection plan!
- These are found in the following areas:

- Waste water treatment
- Woodyard
- Canteen
- Fire department
- Garage Hallerwirt



- All employees, suppliers and contractors who are on the factory premises during an emergency must adhere to the instructions of the evacuation leader!

Evacuation – meeting points



Rescue equipment – emergency equipment

- The rescue equipment is found in Recovery Boiler 4 (ground floor)! Here you will find:
 - Rescue reel and rescue equipment
 - Defibrillator (other defibrillators are in the central control roll pulp mill, control room PM 8)
 - First aid kit
- Fire brigade St. Gertraud is trained for the rescue of persons from confined spaces. In case of an emergency, you can immediately trigger the alarm via the LAWZ warning center.
- Mill doctor is in the IBM building





Food safety Management System for Products according FSSC 22000

Hygiene Regulations in the areas
Paper mill and Flash drying plant

Elke Juri

Hygiene regulations

➤ This work instruction applies:

- For all employees at Mondi Frantschach, including temporary employees, visitors, technicians, suppliers and also serves as supporting evidence for the recurrent training.

➤ Please note:

- Some of our products go into the food industry, which requires a high level on the cleanliness and hygiene of the product, and also to the production itself.

➤ For this reason, certain rules have to be followed in following production areas , which are particularly critical for the product

- paper mill
- flash drying plant

Hygiene area 1 and Hygiene area 2

➤ Hygiene area 1

- At the **Wood yard** and in the **Pulp mill**, there is no potential for risk in terms of product hygiene because it is a closed circle.



➤ Hygiene area 2

Areas with little risk of contamination, because paper and market pulp production is carried out at high temperatures

- Stock preparation up to dryer section at the individual paper machines
- Flash drying plant – except baler (area 3)
- Loading (In the area of loading, the goods are already packed)

○ Risks

- Foreign objects such as glass or metal pieces
- Pests
- Cleanliness of the buildings and facilities



Hygieneregeln Hygienezone 2



Rauchen nur in den gekennzeichneten
Raucherzonen

Essen und Trinken nur in den ausgewiesenen
Bereichen und Wartn

Hände waschen oder desinfizieren nach
Essen, Trinken, Rauchen, WC-Besuch

Keine Glasbehälter und Glasflaschen
verwenden

Messer mit Abbruchklingen und lose Heftklammern
sind nicht erlaubt

Fenster nur mit Fliegengittern öffnen,
Türen geschlossen halten

Offene Wunden sofort versorgen

Saubere Maschine – Sauberes Umfeld -
Sauberes Produkt



Hygiene area 3

➤ Hygiene area 3

Areas with a high risk of contamination

➤ Areas in the Paper mill

- Paper rewind of the individual machines
- Roll transport
- Roll wrapping machine until transfer loading
- Baler up to packaging

➤ Risks

- Foreign objects such as glass or metal pieces
- Pests
- Cleanliness of the buildings and facilities
- Personal hygiene



Hygieneregeln Hygienezone 3



Rauchen nur in den gekennzeichneten
Raucherzonen

Essen und Trinken nur in den ausgewiesenen
Bereichen und Warten

Hände waschen oder desinfizieren nach
Essen, Trinken, Rauchen, WC-Besuch

Das Tragen von Schmuck (Ausnahme: Ehering),
sichtbaren Piercings und Uhren ist nicht gestattet

Keine Glasbehälter und Glasflaschen
verwenden

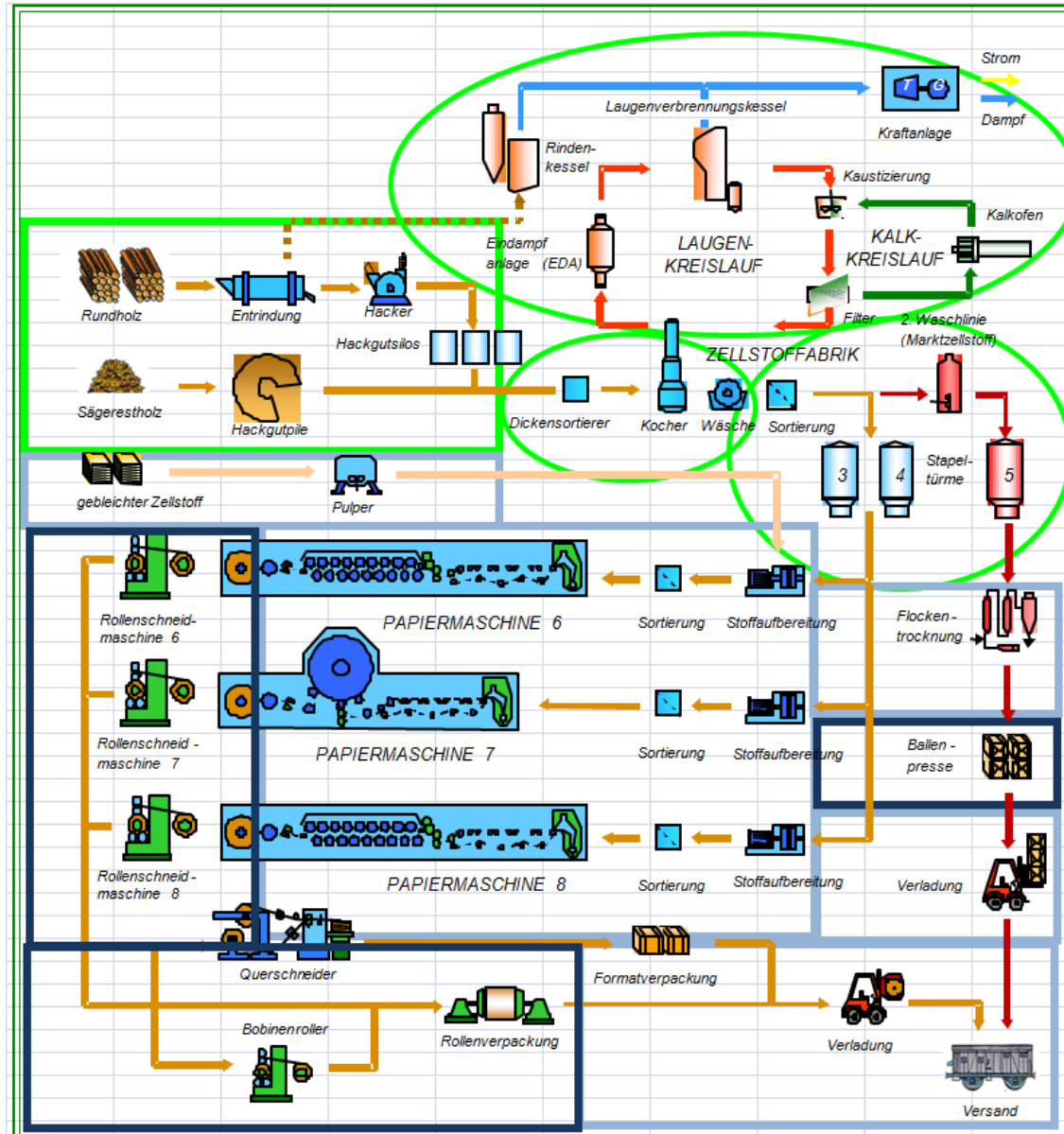
Messer mit Abbruchklingen und lose Heftklammern
sind nicht erlaubt

Fenster nur mit Fliegengittern öffnen,
Türen geschlossen halten

Offene Wunden sofort versorgen

Saubere Maschine – Sauberes Umfeld -
Sauberes Produkt

Hygiene areas at Mondi Frantschach



➤ Hygiene area 1

- Wood yard
- Pulp mill

➤ Hygiene area 2

- Stock preparation up to dryer section at the individual paper machines
- Flash drying plant – except baler (area 3)
- Loading (In the area of loading, the goods are already packed)

➤ Hygiene area 3

- Paper rewind of the individual machines
- Roll transport
- Roll wrapping machine until transfer loading

Hygiene regulation paper mill (1/3)

➤ No smoking

- Smoking is prohibited in the mill except in the marked smoking areas. After smoking, hands have to be cleaned

➤ Eating and drinking

- Food and drinks (except water in PET bottles), including chewing gum are strictly forbidden in the “hygiene area 3”.
- It is allowed to eat and drink in the control rooms or in the marked areas

➤ Hand cleaning

- Hands must be cleaned (washed or disinfected) before starting to work, after a break (eat, smoke), after using the toilet or after working with unclean items.

➤ Glass prohibition

- In the production area there is glass prohibition. Drinks, yogurt, etc. may only be consumed from plastic containers or cans.

➤ Waste

- Separate collection of waste must be disposed in the appropriate waste containers with cover.



Hygiene regulations paper mill (2/3)

➤ Doors and windows

- Only open windows equipped with fly screens. Doors should be kept closed

➤ Housekeeping:

- The workspace and the area around must be kept in a clean condition
- Work surfaces, utensils, containers, machinery must be kept clean

➤ Ways:

- In the area of the roll-transport-system by the paper machines, the conveyor belts have to be crossed only at the blue-marked ways

➤ Knives / Tools:

- It is not allowed to use knives with break-off blades
- Tools have to be put away immediately after use



Hygiene regulations paper mill (3/3)

➤ Work clothes:

- It is possible to wear work clothes or private clothes, provided they are in a clean condition. Work clothing should be changed immediately when contaminated. Working clothes must be worn at the factory. Short arm shirts are allowed, but shirts without sleeves are not allowed

➤ Hair / Nails:

- Nails have to be short and clean. Artificial nails are not allowed in the production area. Long hair must be tied together

➤ Personal items:

- Wearing jewelry (except wedding ring), clocks and visible piercings are not allowed in the production area. Personal items must be stored securely. Excepted from this rule are only visitors who stay exclusively within the blue-marked visitor ways.

➤ Cell phones:

- Making calls in the “hygiene area 3” is only allowed in the control rooms or on the blue-marked paths. Otherwise, cell phones have to be kept safe.

➤ Injuries / Illnesses :

- Open wounds must be supplied immediately. It's not allowed to take medicine to the production, except for emergency medications such as asthma spray





Waste separation Mondi Frantschach GmbH

Elke Juri

Recyclables and residual waste separation in the factory



Paper	Glas Packaging	Plastic Packaging	Metall Packaging	Bio Waste	Wood Waste	Iron scrap	Residual waste
<p>✓ YES ☺</p> <p>Newspapers, catalogues, magazines, books, brochures, notebooks, folded cartons, cardboard, corrugated cardboard, non-soiled paper</p> <p>✗ NO ☹</p> <p>Composite materials (e.g., beverage cartons)</p> <p>Plastic wrapping (e.g., catalogue wrapping)</p> <p>Dirty paper</p>	<p>✓ YES ☺</p> <p>Beverage bottles, disposable glass bottles, jam jars, pickle jars, empty medicine bottles</p> <p>✗ NO ☹</p> <p>Window glass, drinking glasses, laboratory glassware, mirror glass, crystal glass, wired glass, light bulbs, ceramics, porcelain, fireproof glassware</p>	<p>✓ YES ☺</p> <p>Blister packaging, packaging made from plastic such as: cups (empty), carrier bags, bottles, lids, caps, canisters, composite materials such as: milk cartons, juice boxes, coffee vacuum packaging</p> <p>✗ NO ☹</p> <p>Plastics that are not packaging, such as pipes, hoses household items</p>	<p>✓ YES ☺</p> <p>Beverage cans, tin cans, crown caps, metal lids, aluminum foil, metal bowls, metal tubes, completely emptied aerosol dispensers</p> <p>✗ NO ☹</p> <p>Screws, iron parts, wires, nails, engine parts, everyday metal objects, aerosol dispensers not completely emptied</p>	<p>✓ YES ☺</p> <p>Fruit and vegetable scraps, garden waste, food waste, tea bags, coffee filters with brewed liquid, leaves, cut flowers, potted plants, potting soil, shrub and grass clippings</p> <p>✗ NO ☹</p> <p>Plastic bags, vacuum cleaner bags, used cooking oils and grease, cigarette ash, hygiene products</p>	<p>✓ YES ☺</p> <p>Untreated wood, disposable wooden pallets, Euro pallets, packaging wood, carpentry waste wood</p> <p>✗ NO ☹</p> <p>Coated wood, lacquered wood</p> <p>Cable waste</p> <p>Cable waste is collected at the scrap yard</p>	<p>✓ YES ☺</p> <p>Screws, nails, wires, iron parts, completely emptied aerosol dispensers</p> <p>✗ NO ☹</p> <p>Electronic waste, batteries, aerosol dispensers not completely emptied, oil-contaminated waste</p> <p>Collection in containers for scrap metal or directly at the scrap yard</p>	<p>✓ YES ☺</p> <p>Light bulbs, mirror glass, flat glass, waxed paper, hygiene products, rubber waste, vacuum bags, ashes (cold), soiled plastics, leather waste, sweepings, flower pots</p> <p>✗ NO ☹</p> <p>Construction waste, bulky waste, hazardous waste such as waste oil and fat, batteries, old electrical appliances</p>

● **Waste collection container in the factory**

- ✓ Paper packaging
- ✓ Plastic packaging
- ✓ Biogenic waste
- ✓ Metal packaging
- ✓ Glass packaging
- ✓ Residue waste



● **Units for collection of recyclables**

- ✓ Plastics
- ✓ Bio waste
- ✓ Paper
- ✓ Metal
- ✓ Glass



● **Press waste together**

- ✓ Saves lots of space

● **The goal:**

- ✓ As little residual waste as po



Hazardous waste

The most common hazardous waste in the factory

- Oil-contaminated equipment and waste oil
- Electronic components
- Batteries
- Aerosol dispensers (spray cans), when they are not completely emptied
- Gas discharge lamps
- Agents such as detergents, solvents, chemicals, paints and varnishes

- **Delivery to the interim storage facility** for hazardous waste must be done after consultation with the mechanical workshop.



Oil-contaminated equipment

✓ YES 😊

Solid grease and oil-contaminated equipment



✗ NO ☹️

Waste oil
Used oil and air filters
Oil-contaminated cleaning cloths from the MEWA co.
Electronic components

Oil-contaminated cleaning cloths

✓ YES 😊

Oil-contaminated cleaning cloths from the MEWA company (torn and whole)



The cloths are exchanged in the magazine

✗ NO ☹️

Oil-contaminated paper towels

Waste oil for collection tank

✓ YES 😊

Old oil from the factory area

✗ NO ☹️

PCB-containing waste oil (transformers)

Waste grease

Batteries (hazardous waste): self-dispensed in the magazine
Toner (printers and copiers) : self-dispensed in the magazine



Principles of waste separation

➤ Recyclable materials must be separated

- Plastics do NOT belong in the waste paper container
- Fold cardboard packaging to save space
- If there is not enough space left in the waste paper containers, cardboard packaging should be taken to the paper press at the magazine



➤ Hazardous waste must not be placed in the residual waste or recyclable material collection units

Hazardous waste such as:

- Used oil
- Oil contaminated equipment
- Batteries
- Compresses gas packages



Must NOT be into the residual waste or into recyclable material collection units



Please note

Hazardous waste does NOT belong
in the residual waste container

Waste oil and oil-
contaminated waste
may not be disposed of
with the residual
waste!



Plastics do NOT belong in the waste paper container

Materials must be
separated!
Fold cartons together!



Oil-contaminated waste is hazardous waste



Separate, fold together



Fire safety regulations

Base:

Workplace ordinance AStV § 45(2)

Technical guidelines for preventative fire safety TRVB O 119/06

Klaus Dobrovz

Fire safety regulations (1/3)

General fire prevention measures


- Maintaining order and cleanliness in the building is a basic requirement for fire and accident prevention.
- A strict smoking ban applies on the entire factory premises and in the buildings, with the exception of the designated smoking areas.
- Remnants of tobacco or materials prone to spontaneous combustion may only be stored in non-flammable containers with tight-fitting lids.
- Combustible waste such as oil and soaked cleaning rags must be stored in a fire-proof manner (in closed containers in the respective operating department). Every 4 weeks, these are sent away from the magazine for cleaning (in containers provided for this purpose).



Fire safety regulations (2/3)

General fire prevention measures

- Hot work (welding, cutting, soldering, flames, etc.) may only be performed after prior approval (Hot work permit) from the plant foreman responsible for the operating area or fire protection officer
- Exceptions to this are the designated and appropriately setup workshops.
- Electrical systems should be operated and maintained in accordance with the regulations. Flammable materials should not come into direct contact with lighting fixtures.
- Storing items of all kinds, whether flammable or incombustible in unsuitable places (hallways, escape routes and other traffic routes etc.) is prohibited.
- The max. storage quantity of spray cans at the workplace is the daily requirement.

Freigabeschein	03 Heißarbeiten	
Ü-Nummer	Exposition	Max. Nummer/Auftragsnummer
Anlage		
Kurzfeld		
Art der durchzuführenden Arbeiten		
<input type="checkbox"/> Brennbare Material: Kontaktpunkt ist frei von brennbaren Materialien oder naass bzw. abgedeckt.	<input type="checkbox"/> Brand- und Rauchmeldung: Kennzeichnung, Aufpflasterung und Abdeckung von Kontaktpunkten und Rauchmeldern in unmittelbarer Nähe	<input type="checkbox"/> Brandwache: Vorhandensein von Brandschächten mit geeigneter Ausstattung, sofern erforderlich
<input type="checkbox"/> Explosionsgefährdete Bereiche: Tests auf explosionsfähige Atmosphäre	<input type="checkbox"/> Bestätigung darüber, dass die Abdeckungen nach Abschluss der Arbeiten entfernt wurden	<input type="checkbox"/> Durchführen von Audits in festgelegten Zeitabständen nach Abschluss der Heißarbeiten, wenn erforderlich
<input type="checkbox"/> Geeignete Abdeckungen (ARF-Funkens-Ausrüstung vorhanden)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Schweißen <input type="checkbox"/> Brennschneiden	<input type="checkbox"/> Löten, Flämmen	<input type="checkbox"/> Trennschleifen mit Winkelschleifer
<input type="checkbox"/> Bohren, Schneiden <input type="checkbox"/> Wärmearbeiten (Aubogen)	<input type="checkbox"/> Ex-Bereich Zone	<input type="checkbox"/> Sonstige brandgefährliche Arbeit
Ausführende Firma:	Angedient von:	
MitarbeiterName:	Unterschrift:	
Wichtigste Maßnahmen/Sicherheitsvorkehrungen vor Beginn der Arbeit		
<input type="checkbox"/> Feuerlöscher bereitstellen	<input type="checkbox"/> Löscheinrichtungen bereitstellen	<input type="checkbox"/> Abdecken brennbarer Stoffe
<input type="checkbox"/> Abdecken von Kabeln und Kabeltrassen	<input type="checkbox"/> Rohrleitungen abfängeln, Clackscheibe	<input type="checkbox"/> Entfernen brennbarer Gegenstände / Stoffe
<input type="checkbox"/> Rohrleitungen entfernen und spülen	<input type="checkbox"/> Angrenzende Räume überprüfen	<input type="checkbox"/> Entfernen von Staubabgabungen
<input type="checkbox"/> Gegen Funkenflug und Feuerschutz sichern	<input type="checkbox"/> Entfernen der Abdeckungen nach Abschluss und Kontrolle	<input type="checkbox"/>
Gemeinsam mit zertifizierten und überprüften Mitarbeitern R&D Center: DW 246 (Explosive Case, Sauerstoff, Schwefelwasserstoff)		
<input type="checkbox"/> Sauerstoff <input type="checkbox"/> Sauerstoff <input type="checkbox"/> Sauerstoff <input type="checkbox"/> Sauerstoff		
Messungen	Uhrzeit	CO ₂ Ex CO ₂ H ₂ S Name Unterschrift
1. Messung		
2. Messung		
3. Messung		
4. Messung		
Freigabe		
Datum	<input type="checkbox"/> Montag <input type="checkbox"/> Dienstag <input type="checkbox"/> Mittwoch <input type="checkbox"/> Donnerstag <input type="checkbox"/> Freitag <input type="checkbox"/> Samstag <input type="checkbox"/> Sonntag	
von		
bis		
Unterschrift:		
Automatische Löschanlage/Sprinkleranlage vorhanden <input type="checkbox"/> ja <input type="checkbox"/> nein		
Automatische Brandmeldeanlage vorhanden <input type="checkbox"/> ja <input type="checkbox"/> nein		
Löschanlage (siehe Tabelle zum Betriebsstellen)		
Brandwache <input type="checkbox"/> ja <input type="checkbox"/> nein		
Brandwache durch <input type="checkbox"/> Betrieb <input type="checkbox"/> Instandhaltung <input type="checkbox"/> Feuerwehr <input type="checkbox"/> Sonstige		
Die angeführten Brandschutzmaßnahmen/Sicherheitsvorkehrungen sind durchzuführen und die betriebliche Brandschutzorganisation ist einzuklinken. (Sonderbeauftragter/Professional verantwortlich für die Arbeitsaufklärung und die Einhaltung der Sicherheitsmaßnahmen)		
Arbeitsaufklärung:		
1. Brandschutzmaßnahmen nach der Arbeit: Kontrolle / Nachkontrollen 1. 1. 816, 2. Nach 1 h, 816, 3. Nach 2 816.		
<input type="checkbox"/> Messgruppen/Löschanlagen einsetzen lassen: Tel: 24-06, 99 272, 1806		
<input type="checkbox"/> 1. Kontrolle durch Meister/Professional oder Betrieb → Name: _____ Uhrzeit: _____ Unterschrift: _____		
<input type="checkbox"/> 2. Nachkontrolle durch Meister/Professional oder Betrieb → Name: _____ Uhrzeit: _____ Unterschrift: _____		
<input type="checkbox"/> 3. Nachkontrolle durch Meister/Professional oder Betrieb → Name: _____ Uhrzeit: _____ Unterschrift: _____		
→ Alarmierung: Eingangs 64332 500 214 Feuerwehr: 122 Rettung: 130 Aufwahrung 1 Jahr		

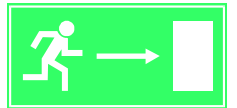
Fire safety regulations (3/3)

General fire prevention measures

- Fire extinguishers (wall hydrants and portable fire extinguishers) must not be moved – even temporarily –, obstructed from view (for example, through clothing or decorative material hung above them), misused or removed from the prescribed storage areas or used improperly.



- Warning signs relating to fire protection and escape routes, and emergency lights must not be placed out of view, damaged or removed.
- As far as possible, electrical equipment should be switched off after the work is completed.
- Missing fire protection equipment (e.g., fire extinguishers) must be reported immediately.



Fire safety regulations

How can I make an emergency call?

- The fire alarm can be activated automatically via a fire alarm system (automatic fire detectors and/or push button detectors) or manually via telephone



- When making an emergency call, please always provide:

- **Who** is speaking (name and location of person calling)
- **What** has happened (injury, fire, traffic accident, natural disaster)
- **Where** is help needed (address, directions)
- **How**: indicate any special circumstances
- **How many** injured parties there are

Internal emergency call nr.: 214





VEXAT

Regulation explosive atmospheres

Eva Unterluggauer

VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

Legislation requires that a company in which explosive gases / vapors / mists / dusts occur

- determines and documents the possible explosion hazards
- Ex-atmospheres
 - avoid explosive atmospheres (primary explosion protection)
 - prevents their ignition (secondary explosion protection => classification of Ex zones)
 - contain the effects of an explosion (constructive explosion protection)
- marks the hazardous areas
- trains the employees on the potential dangers and correct behavior in Ex-zones

VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

Definition explosive atmosphere

Mixture of

- **Fuel** = Combustible gases/ vapors / mists / dust

at Mondi Frantschach:

Natural gas, lean gas, stripper gas (methanol), turpentine, NKG, ammonia, acetylene,...
Wood dust, bark dust, paper dust, rubber dust, starch,...

- **Oxygen / Air**

- **Ignition source**

Hot surfaces or gases

Flames adiabatic compression

ultrasound

electromagnetic fields

optical / ionizing radiation

chemical reactions

mechanically generated sparks

electrical devices / compensating currents

static charge lightning



VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

Definition Ex-zone

In the Ex-zone, an explosive atmosphere (fuel + oxygen/air)

- permanently (zone 0 (gas) / 20 (dust))
- occasionally (zone 1 (gas) / 21 (dust))
- rarely (zone 2 (gas) / 22 (dust))

occur.

Possible markings of Ex-zones



VEXAT – Regulation explosive atmospheres (BGBI II Nr. 309/2004)

- What is avoid in the Ex-zone?

- The **Ingition of the Ex Atmosphere!**

- How can it be ignited?

Examples:

- Hot surfaces, flames
- Mechanical generates sparks
- Static charge
- Electrical equipment
- Lightning strike

- How to avoid?

- ➔ no fire/ smoking, no open light
- ➔ avoid hot s urfaces in the zone (e.g. engines, vehicles)
- ➔ do not store flammeble materials in ex.zones!
- ➔ not hot work, low sparking tools
- ➔ wear dissipative footwear
- ➔ do not put on ore take off anything
- ➔ grounding / potential equalization
- ➔ use explosion-proof equipment
- ➔ no mobiles/ no radios into the zone
- ➔ el. work only in de-energized state
- ➔ lighthing protection system

VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

- ATTENTION WHEN RELEASING HOT WORK (Permit 03 Hot works)
 - Hot work is not permitted in Ex zone
 - A **gas measurement** (clearance measurement) **must** be carried out before starting hot work, confirming that no Ex atmosphere is present during the work
 - During hot work on pipelines / vessels of the pulp mill, a free measurement must ALWAYS be carried out, even if there is no Ex-zone identification
 - ATTENTION in case of **dust deposits**
These must be removed without fail before starting work (vacuum, wash off wet, DO NOT blow off!).

VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

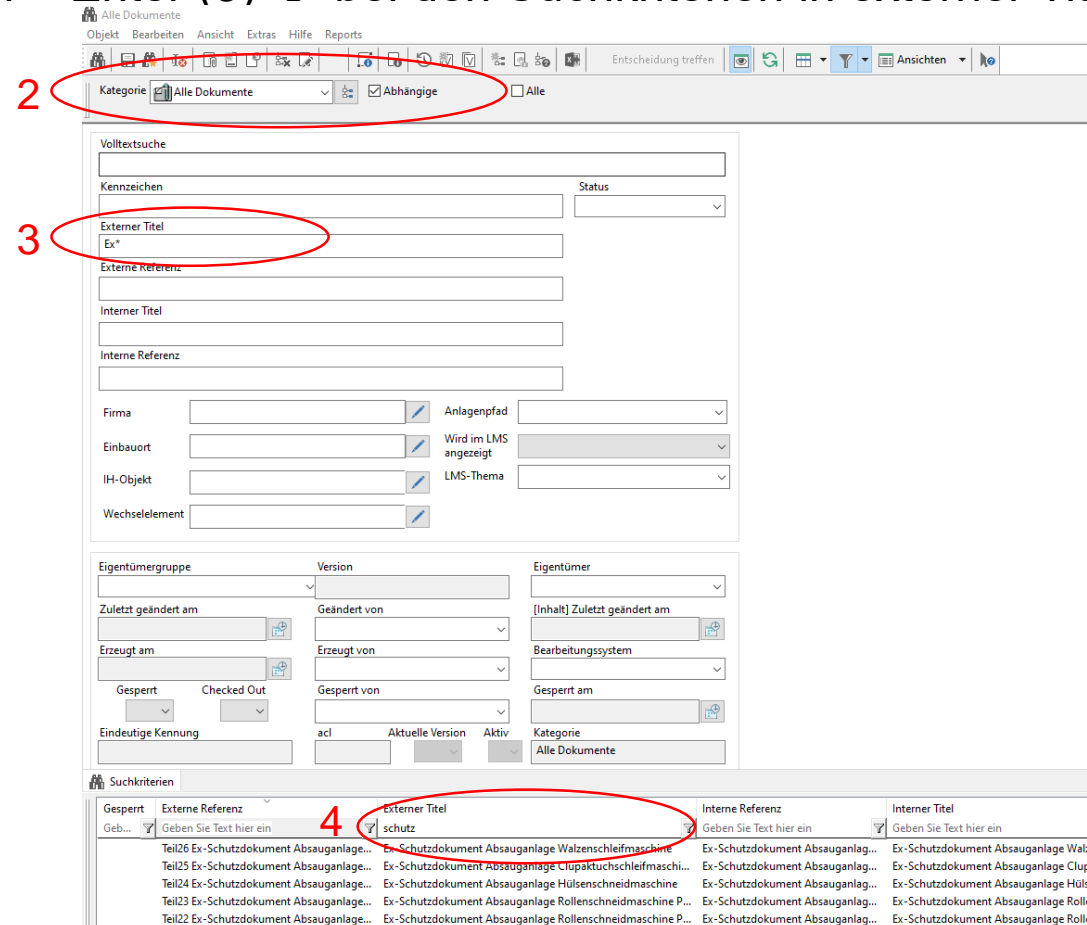
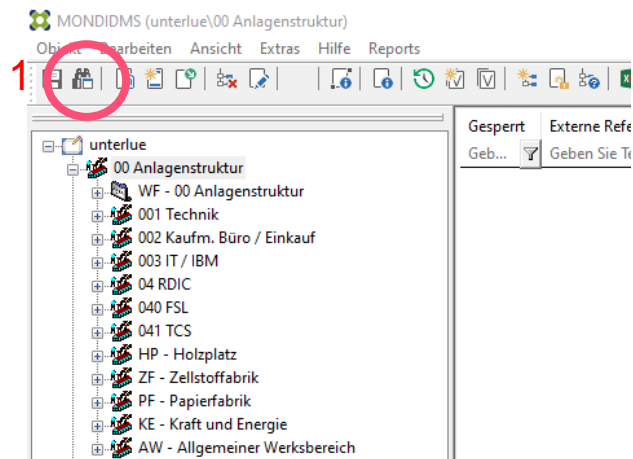
- **Information** on explosion hazards is summarized in the explosion protection documents (ExSD)
- **Contents ExSD**
 - Explosion hazards in normal operation, during malfunctions, maintenance, testing, cleaning
 - Ex-protection measures (primary, secondary, constructive)
 - Local determination of the Ex-areas and their classification into zones
 - Suitability of work equipment, electrical / non-electrical devices, work clothing for
 - Substances data (see also safety data sheet)
 - Ex-zones-plan: described in writing, shown graphically or pictorially
 - Inspection and control periods
 - Procedure when working in Ex-zones
- **Storage of ExSD**
 - Syneris → via search function (see next slide)
 - Laufwerk K:\Abteilungen\PLANT Security\1 Explosionschutzdokumente PDF

VEXAT – Regulation explosive atmospheres (BGBl II Nr. 309/2004)

Storage ExSD in Syneris

Suche (1) → Kategorie „Alle Dokumente“ („Abhängige“ anklicken) (2)

→ Externer Titel „Ex*“ eingeben + Enter (3) → bei den Suchkriterien in externer Titel auf „Schutz“ filtern (4)



Important parameters in explosion protection (1/3)

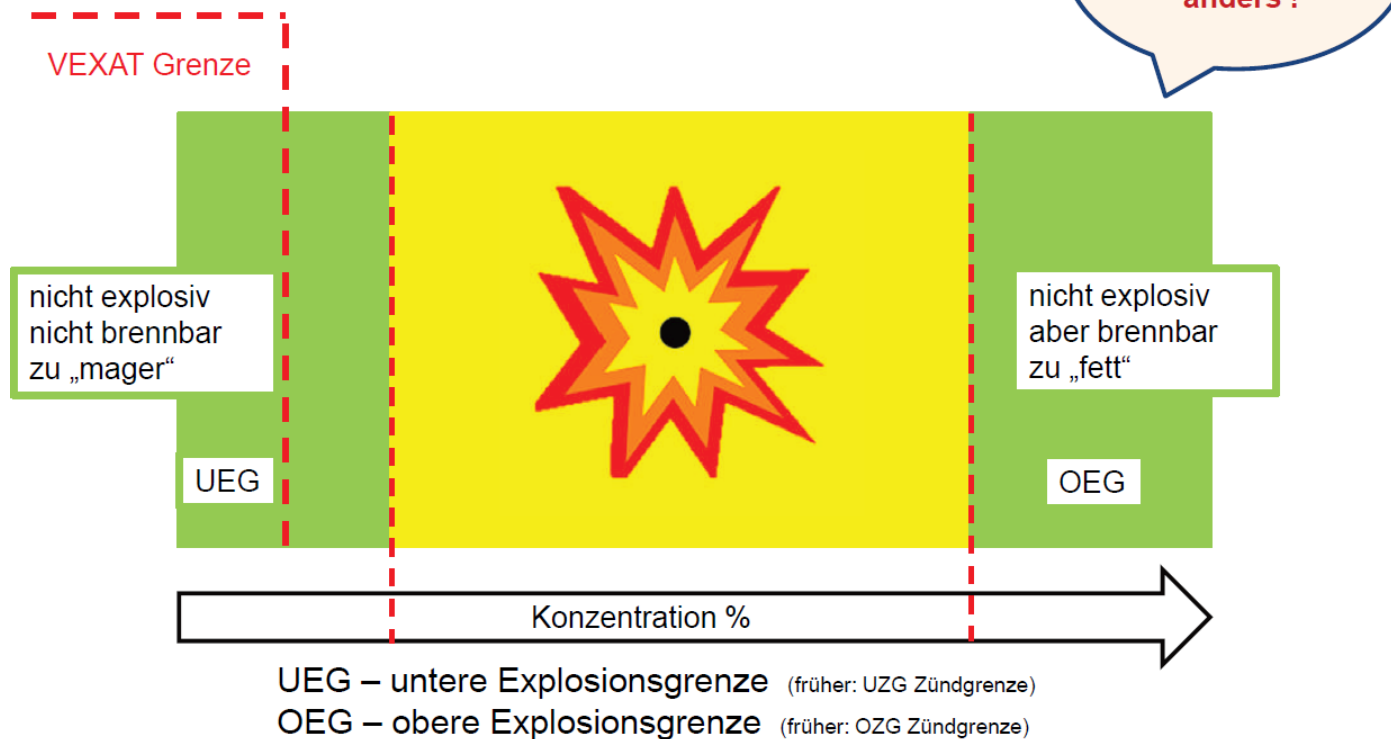
- **Flash point:** Temperature at which a flammable vapor (gas)-air mixture forms above a liquid.
- **Ignition temperature:** Temperature at which the vapor-air mixture can ignite itself.
- **Oxygen concentration limit (SGK):** if the concentration in the mixture falls below this limit, the explosive atmosphere can no longer be ignited (e.g. in the presence of high quantities of vapor or an inert gas (nitrogen, CO₂, ...)).
- **Hazardous explosive atmosphere (geA)** = Hazardous quantity of an explosive atmosphere.
 - Exists from
 - 10 liters volume
 - 1/10000 room volume (80m³ => 8 l)
 - Dust layer 1mm stirred up

Important parameters in explosion protection (2/3)

➤ Lower / upper explosion limit (LEL/OEG)

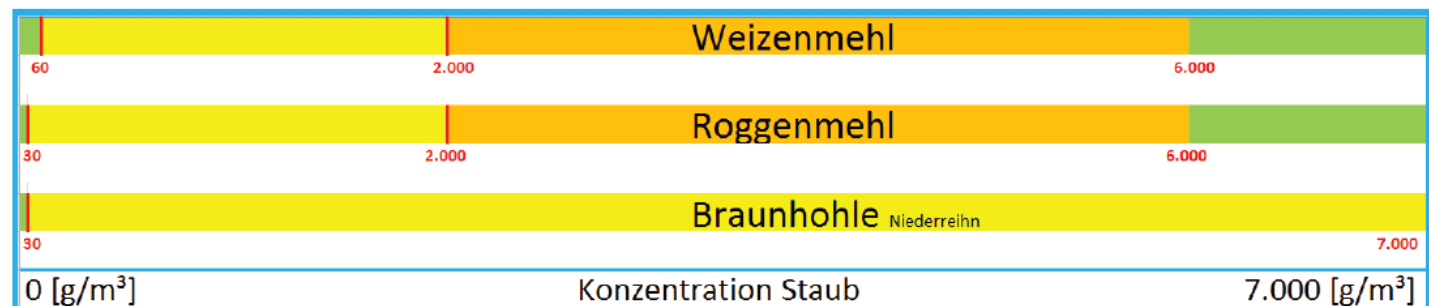
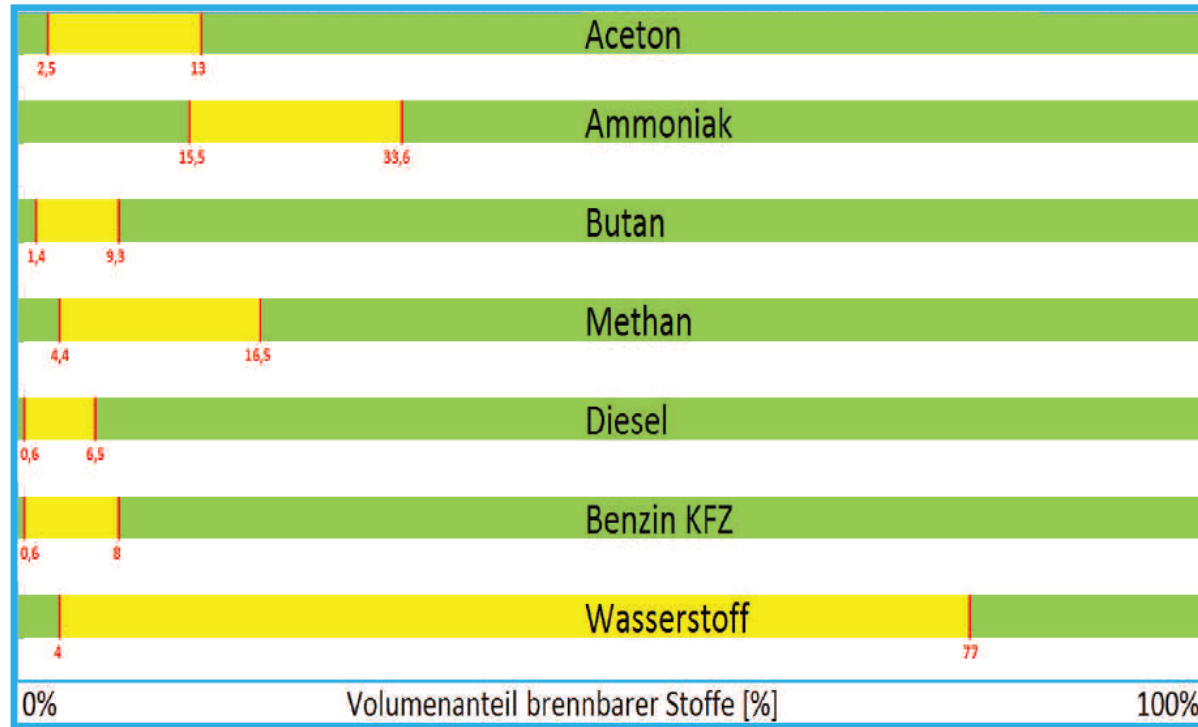
Concentration range at which the vapor (gas) - air mixture is explosive.
Above/below it is too lean/too rich

§3 (4) Ein explosionsgefährdeter Bereich liegt jedenfalls dann vor, wenn **50 %** der unteren Explosionsgrenze (UEG) erreicht werden können.

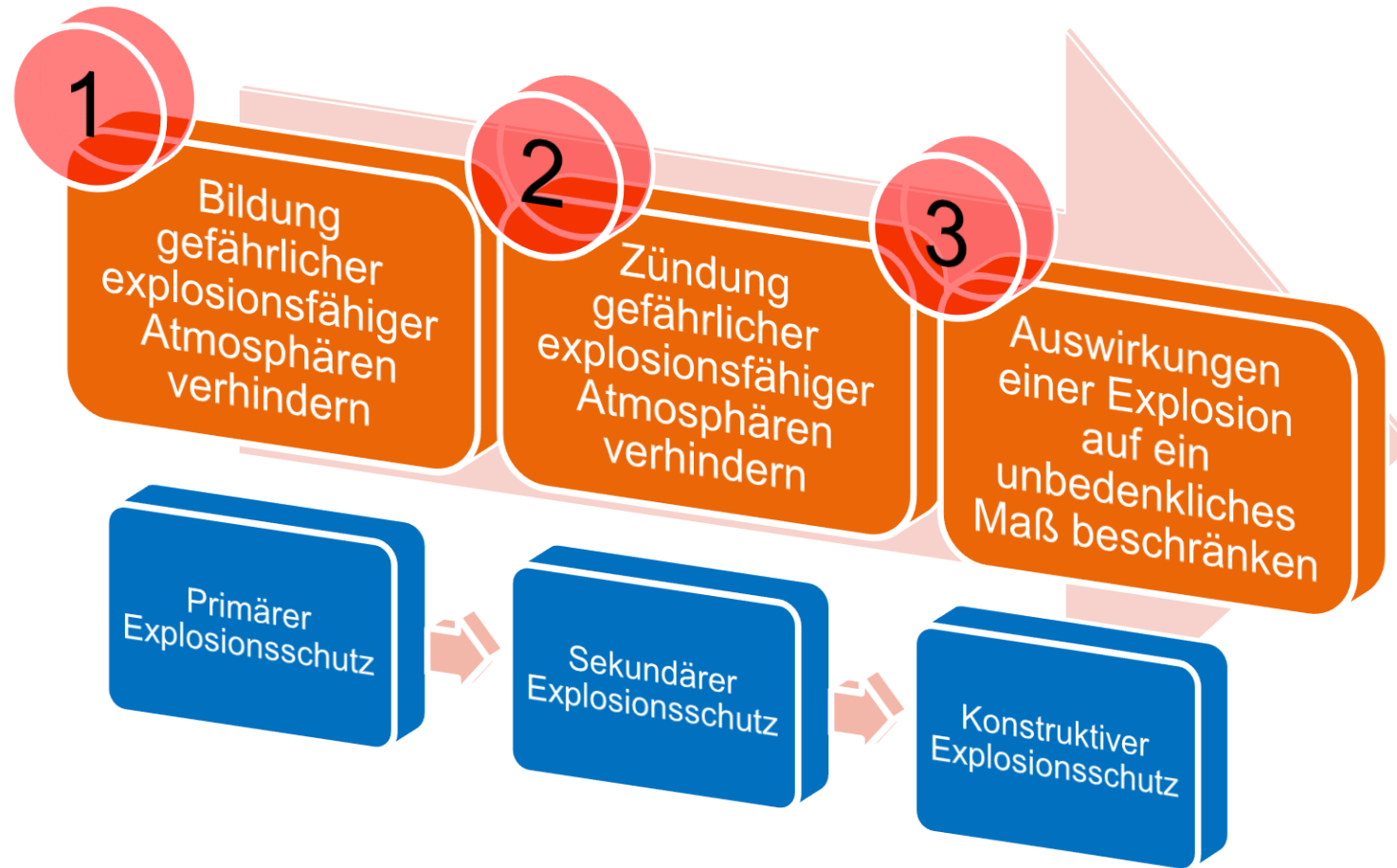


Important parameters in explosion protection (3/3)

➤ Examples UEG / OEG



VEXAT - Classification of protective measures



VEXAT – Primary explosion protection

1

Bildung von gefährlicher, explosionsfähiger Atmosphäre verhindern

Begrenzung oder Überwachung der Konzentrationen

Stoffe nur für den Tagesbedarf lagern, Gaswarngeräte

Inertisierung

Schutz-Atmosphäre schaffen

Lüftungstechnische Maßnahmen

Ventilation oder Absaugung

Prozess-Parameter begrenzen

Betriebs-Temperaturen verringern

Beseitigung von Staub-Ablagerungen

Reinigungen

VEXAT – Secondary explosion protection

2

Zündung gefährlicher explosionsfähiger Atmosphären verhindern

Einteilung in
EX- Zonen
(Gase Zone 0)
(Staub Zone 0)

Ständige
Explosionsgefahr oder
= Zone 1 + seltene
Störungen

Einteilung in
EX- Zonen
(Gase Zone 1)
(Staub Zone 21)

Gelegentliche
Explosionsgefahr oder
= Zone 2 +
vorhersehbare
Störungen

Einteilung in
EX- Zonen
(Gase Zone 2)
(Staub Zone 22)

Sehr seltene,
kurzfristige
Explosionsgefahr
Normalbetrieb

Vermeidung von
Zündquellen

Ex-geschützte
Werkzeuge, Erdungen,
richtige Arbeitskleidung
Messungen,
Betriebsmittel
Funkenlöschanlagen,
Ex-geschützte Handys
oder Funkgeräte

VEXAT – Constructively explosion protection

3

Auswirkungen einer Explosion auf ein unbedenkliches Maß beschränken

Explosionswirkung begrenzen

Explosionsfeste Ausführung der Betriebsmittel
Druckentlastungen, Berstscheiben
Explosionsunterdrückungen

Explosionsausbreitung verringern

Explosionstechnische Entkopplungen
Löschmittelsperre
Schnellschlussschieber

**Work safe.
Home safe.
Everybody, every day.**

