



Minnesota Craft Brewers Guild Safety Committee Safety Packet

Packet Overview

Breweries are inherently dangerous spaces. We work with heavy machinery, high-temperature liquids, corrosive chemicals, and pressurized vessels, just to name a few common hazards. It is in the interest of everyone in our industry to foster a safe work environment. It's also the law. The hazards inherent in what we do cannot be entirely eliminated, but we can work to reduce the risk and exposure through awareness, engineering, and training.

To that end, the MNCBG Safety Committee has assembled this packet as a benefit to Guild members. It is not intended to be a turn-key safety solution: you're still going to have to apply the information to your facility. What we have tried to pull together is a list of brewery safety issues and where to find resources that will help you to know what is expected from a regulatory standpoint and from a best-practices mindset.

There is a lot of safety information available, but most of it isn't conveniently found in the same place. This packet is organized into series of categories, with many of the entries hyperlinked to the relevant safety standard or other resources. Some of them are specific to Minnesota, explaining where MNOSHA standards differ from the federal OSHA requirements found in many off-the-shelf safety guidelines. Other topics link to resources specific to the brewing industry. We have also provided best practice guidelines and sample templates that you can use & adapt for your brewery.

We hope you will find this a useful guide. Ultimately, our goal is to encourage the development of safety-conscious cultures, not simply meeting the minimum required for compliance.

Minnesota state-specific items

- [AWAIR program](#) (A Workplace Accident and Injury Reduction program)
 - The Ferri Group has supplied a template for Guild members.
- [Annual Right-To-Know](#) (RTK) training with a 3-year recordkeeping requirement (Minnesota Rules Chapter 5206 & Hazard communication/GHS 29 CFR 1910.1200)
- [PPE](#): Employers must provide & pay for all required PPE (Minnesota Statutes 182.655 subd. 10a).
- [Safety Committees](#): All companies with more than 25 employees are required to have them. The number of employees is not restricted to brewers: it includes any full- or part-time tap room or administrative staff (Minnesota Statutes 182.676).
- [Recordkeeping](#): All companies with 11 or more employees are required to comply with OSHA recordkeeping requirements (300 logs, etc.).
- [Quarterly CO monitoring](#) for spaces with internal combustion industrial trucks/forklifts
- [Personnel lifting platforms](#): When using a powered industrial truck/forklift to lift someone, the lifting platform has to satisfy strict rules. Short version: The best (and most simple) solution to this issue is use an aerial lift platform, either an articulated boom, reach or scissor lift; not a personnel basket attached to a forklift. Definitely don't use standard pallets as a lifting platform.
- [Boiler Special Engineer permit](#)
- Study material: http://www.dli.mn.gov/ccld/BoilerLicensing_books.asp

Immediately Dangerous to Life or Health (IDLH)

- Confined Spaces
 - We have included the [Confined Spaces Best Practices Guide](#) from the Brewers Association, but other resources can be found at the [MBAA website](#) and the [OSHA standard](#).
- Lock-Out/Tag-Out
 - The [MBAA](#) offers a template for a written program.
 - Best practice is to conduct a hazard assessment of new & existing equipment.
 - Assemble machine-specific SOPs for equipment.
 - Locks should be identified & individually keyed; use multi-lock hasps or boxes if there are contractors involved.
- Chemical Handling
 - [Safety Data Sheets](#) (SDS) must be kept for any hazardous chemicals used, with copies readily available in work areas for staff to review.
 - With chemicals, it is important to consider the entire facility. In addition to CIP applications, chemicals are received at the warehouse dock and stored both in bulk and in secondary use containers. Make sure that all personnel who could be potentially exposed are adequately trained and equipped.
 - Secondary chemical containers must be labeled with both the name of the hazardous chemical(s) & the hazards present.
- [Powered industrial trucks](#) & aerial lifts/cranes
 - Train effectively on both driving techniques and on properly moving material, especially at height and around storage racks. Maintain training records and re-train as required.

- Remember that powered pallet jacks are classified as forklifts.
 - Enforce wheel chock/truck restraint rules.
 - Consider marking out designated pedestrian pathways in high-traffic areas.
 - Watch out for distracted driving (earphones, music, etc.).
 - Battery charging stations must have an eyewash nearby that can meet the requirements of the battery's SDS. Have the appropriate PPE available when adding water to the battery (safety glasses/face shield, chemical gloves & apron).
 - Leather gloves should be worn when changing propane cylinders to protect against potential frostbite burns.
 - Installing guardrails, bollards, plywood or other devices can minimize damage to physical assets; strongly encouraged around critical equipment.
 - Fall protection harnesses are mandatory equipment on articulated boom lifts.
- CO2 & other toxic gases
 - Best practice is to install CO2 monitors in affected areas.
 - Time-weighted Average (TWA): 5000 ppm (0.5% v/v)
 - Short-term Exposure Limit (STEL): 30000 ppm (3.0% v/v)
 - Watch out for leaks from CO2 tanks, piping, or hoses (including in tap room draught coolers).
 - Mixing chemicals such as chlorine dioxide, peracetic acid (PAA), or corrosive CIP agents can create dangerous fumes; mix chemicals in appropriately vented areas.
 - Hot liquids & surfaces
 - Water, wort, CIP solutions, & steam: Be aware of your surroundings and be especially careful when handling hoses or opening vessels.
 - PPE: Wear gear that is rated for the task.
 - Inspect transfer hoses regularly for signs of blistering, internal cracking, loose fittings or other damage; remove damaged hoses from service until repaired or replaced.
 - Consider installing an overboil protection system on your kettle.
 - Pressure & pressure relief
 - Piping: Compressed air, CO2, liquids, steam
 - Vessels: Fermenters, BBTs, kegs, gas cylinders & tanks
 - [Gas cylinders](#) must be effectively secured to prevent tipping.
 - Vibrations can cause loose connections and hangers, leading to potential points of failure; monitor piping and supports for excessive movement.
 - Install appropriate pressure relief equipment;
 - Test PRVs periodically to verify pressure release at the listed setpoint(s).
 - PRVs and single-use rupture discs mounted on the tops of vessels should be periodically inspected to confirm that they are being cleaned effectively and are not compromised by soil, corrosion, or beerstone.
 - Periodically test pressure gauges on vessels and equipment against a master calibration gauge or pneumatic testing rig to verify accuracy.
 - Machine guarding
 - Do not disable safety door e-stops or interlocks.

- Walk through your facility and look for areas where body parts and/or clothing can come into contact with moving equipment. Assess the risk and guard appropriately.
- Install guarding around pinch points, rotating shafts, moving belts, etc. Inspect these regularly to make sure that they are not loose, damaged, or missing.
- Label or mark dangerous areas and train personnel accordingly.
- Conduct challenge tests on equipment safety switches to verify that they function as designed; testing after maintenance is recommended as well.

Common Brewery Hazards

- [Ergonomics](#)
 - Teach and enforce good lifting technique: lift with your legs, avoid twisting/turning motions when changing elevation, and keep the load close to your center. Even relatively light objects can cause injury if lifted improperly.
 - Encourage two-person lifting teams for kegs or other heavy loads, especially when a change in height is involved.
 - Consider mechanical assist tools for repetitive high-load tasks or operations that require repetitive bending & twisting motions (e.g. pallet levelers, vacuum lifting systems, etc.).
- [Ladder safety](#)
 - Only use ladders for their intended purpose, and make sure they are secured to prevent the base from slipping out (ladder hooks, etc.).
 - Maintain 3-point contact when climbing; don't carry items that can tip you over.
 - Don't lean outside the rails: move the ladder as required for safe operations.
 - Consider using portable stairs or a scissor lift if heavy loads are involved or a larger work platform would be useful.
 - Fixed ladders
 - Over 20': Mandatory cage
 - Over 24': Mandatory fall-arrest system
- [Occupational Noise Exposure](#)
- A Hearing Conservation Program is required if the TWA is over 85 dB. This would include baseline & annual audiometric testing of affected employees.
 - If a Standard Threshold Shift (hearing loss) is detected, it has to be recorded on the 300 Log.
- Sharps safety
 - Make sure that box cutters and other cutting tools are stored with closed blades.
 - Cut away from your body or consider using cutters with non-exposed blades.
 - Dispose of razor blades in a dedicated sharps container.
- [Bloodborne pathogens](#): This issue generally affects tap room staff who are expected to handle restroom trash and/or deal with vomit, but applies to the entire facility. Blood and other bodily fluids have to be cleaned up properly.
 - Consider installing a dedicated sharps/needles disposal unit in the restrooms to prevent needles from going into the regular trash bin.

- Best practice is to use a plunger or paddle to push down paper towels in a trash bin to prevent hand contact; even with gloves, direct contact can result in a needlestick.
- **Respirators:** Respirators must be appropriate for the task, well-maintained, and [fit-tested](#). Employees with facial hair cannot wear fitted respirators.
- Dust masks and similar equipment: When used on a voluntary basis, employees still must be trained on [Appendix D](#); keep a training log.

Hazard Communication/Right-To-Know

- Employers are responsible for conducting a hazard assessment of the brewery and communicating those hazards to their employees. This should include periodic reassessment.
- Chemicals are the most frequently discussed items, but hazards include hot liquids, noise exposure, gases, machine guarding, environmental temperatures, etc.
- Training frequency: At time of hire or changing work areas, whenever new hazards are introduced, and then annually thereafter.
- Near misses: Encourage employees to report these & make changes as needed.

Injury/Illness Reporting Logs

- MN Guidelines: <http://www.dli.mn.gov/OSHA/Recordkeeping.asp>
- Types of logs (300, 301, 300A)
 - Form 300: An annual log of recordable injuries and illnesses
 - Form 300A: Summary of the 300 Log that must be posted from Feb 1 – Apr 30
 - Form 301: The incident log for entries on the 300 Log
 - The 301 must be filled out within 7 calendar days of the incident.
- **Electronic Submissions:** Starting with the 2016 reporting year, breweries with more than 20 employees are required to file their 300A logs with federal OSHA. The new rule is being phased in over two years, and there are special requirements for breweries with more than 250 employees. The submission deadline for the 2016 reporting log is July 1st, 2017.
- Mandatory Reporting & Contact Info
 - MN OSHA (877-470-6742 M-F 8a-4:30p)
 - Work-related fatalities: within 8 hours
 - Work-related inpatient hospitalizations: within 24 hours
 - Work-related amputations and/or loss of eye: within 24 hours
 - After hours or weekends/holidays: Call federal OSHA (800-321-6742)
 - Reporting guidelines can be found at <https://www.osha.gov/report.html>
 - MN Dept. of Labor & Industry (651-284-5041)
 - Workplace fatalities and serious injuries: within 48 hours, followed by the First Report of Injury form

Resources

MCBG Safety Committee Sponsors

- The Ferri Group: <https://theferrigroup.co/resources/beer/>
- Dyste Williams: <http://dystewilliams.com>

MNCBG Allied Industry Member

- U.S. Compliance Group: <http://www.uscompliance.com/home.php>

Existing Business Partners

- Business insurance risk/loss control specialists: talk to your business property/casualty insurance carrier or broker and ask what services they provide as part of your policy.
 - These specialists often have access to safety program templates, training videos, and expensive testing equipment such as noise exposure dosimeters, air contaminant measurement gear for personal exposure limit (PEL) testing, etc.
 - They typically will also perform hazard walkthroughs and risk assessments.
- Chemical suppliers
 - Safety Data Sheets, RTK training, secondary container labels, titration kits, etc.

Industry & Governmental Resources

- Brewers Association safety material:
 - <https://www.brewersassociation.org/best-practices/safety/free-online-brewery-safety-training/>
- MBAA safety material:
 - <http://www.mbaa.com/brewresources/brewsafety/Pages/safetyprogram.aspx>
- MNOSHA: <http://www.dli.mn.gov/mnosha.asp>
- MNOSHA Consulting: <http://www.dli.mn.gov/Wsc.asp>
- MNOSHA Grant program: <http://www.doli.state.mn.us/wsc/Grants.asp>

