



Storage Guidelines

– Short summary

This guide is intended to be a short presentation of topics that are to be taken into consideration when in the search of a new storage location or when accessing the conditions of an existing location, whether it be an open storage or a warehouse.

Environmental and social risks and exposures from neighbors

- Check if the area is exposed to any major natural hazards such as weather-related risks, earthquakes, for example. Has any natural hazard analysis been made and is a continuity plan in place? What has been planned in case of e.g. flooding, heavy rains, hurricanes and are all the employees informed and trained for such emergencies?
- Are there any exposures from neighboring occupancies that could pose a severe threat to the stored goods i.e. tank farms in very close proximity, chemical production or other storage of dangerous goods?
- How is the social stability in the country, province or neighborhood? Are there risks of social and political unrest that could lead to sabotage or similar threats towards the stored goods?



Storage safety and security

- The conditions in which the goods are stored should always be as safe as possible so that damages to the goods can be avoided.
- Also, the condition of the warehouse is of utmost importance. Are there any issues with e.g. the floor, structural elements, electrical installations, water drainage or elevation of the building in comparison to the surroundings?
- Are the rainwater drainage pipes inside of the building?
- Is the lighting good enough for safe cargo handling? Do the lights have protection glass?
- Check the building materials of the warehouse such as roof, walls etc. especially for combustible materials.
- The storage area should be strong enough to handle the loads of the cargo. Therefore, the ground bearing conditions needs to be good enough and the materials used both on the surface as well as in the layer's underneath needs to be suitable for the purpose.
- What kind of security measures are in place (CCTV, fencing, access control, guarding etc.) and are they proportioned to the risk of theft, sabotage or other possible malicious acts?
- The access permissions need to be documented and can even be restricted to a limited amount of personnel if needed. With high value goods or theft/sabotage prone cargo, the arrangements need to be much stricter than with low value storage.

Fire Safety

- Fire is one of the biggest threats towards the stored cargo. It is therefore important to make sure that issues related to fire safety are identified and resolved as soon as possible.
- How far is the nearest public fire station and what is their response time? The nearest fire brigade can also be a voluntary brigade. In such case both the response time and equipment can significantly differ from a full-time brigade.
- The employees must undertake in, preferable yearly, fire trainings to have knowledge and skills to intervene and respond in an effective and correct manner in case of a fire.
- Check that statutory fire tests on firefighting equipment has been done and that the condition, visibility and accessibility is ensured.
- In case of goods that imposes high fire loads, ask if the local fire authorities and nearest fire brigade are familiar with area and conditions? Common practices with the authorities are an excellent way of improving fire prevention knowledge.



- What is the level of protection in machinery used for handling? It is highly recommendable to have all cargo handling machinery protected with automatic extinguishing system in the engine bay. Handheld extinguishers should be seen as minimum requirement. Time is crucial in case of fire and therefore extinguisher in immediate reach of the operator can make the difference between a total loss or just a small incident.
- Check that procedure for hot work is in place and documented. You can always double check with If P&C Insurance if the procedure presented is according to good standards. As a basic rule, all repairs that require hot work should be done outside and away from the warehouse if only possible.
- In case of electrical machinery, the charging stations must fulfill the requirements from a fire safety perspective. Charging should preferably happen in its own fire cell clean from unnecessary fire load with correct safety distances and fire extinguishers.

Storage / warehouse operations

- What kind of quality procedures are in place from Management and how are these set of criterias followed up in everyday work? Any internal or external, regular inspection routines? Do for example apprentices have a clear training program that is followed and documented? How is new information or information about incident/near misses distributed within the management and especially amongst the employees?
- Info boards and checklist are an effective way of distributing information along with weekly or if not even daily team meetings.
- Correct cargo handling is essential in ensuring that the goods remain in good condition and therefore training of employees is important.
- What kind of procedures are in place with the storage/warehouse provider to ensure quality during the whole time when the goods are in their custody?
- Handling guidelines are a good way to make sure that your cargo is handled in a correct manor. Make sure that all information of possible special requirements or irregularities are well known to the operator.
- When storing goods, correct safety distances to obstructions and obstacles should be maintained. This kind of procedure contributes to many things i.e. fire safety, cargo safety and helps in keeping the warehouse clean and in good order! Clearly marked storage areas and driveways inside the warehouse helps in maintaining these safety distances.
- Cleanliness of the warehouse or storage area is very important! It is therefore important to have procedures in place concerning housekeeping and removal of unnecessary debris from the area



- It is also very important that the machinery used in handling the goods are in good condition so that they won't damage or stain the goods. Regular maintenance and immediate intervention in case of discrepancies ensures that machinery won't cause issues.
- Cargo securing is a big part of safe warehouse / storage operations. Usually the local laws and regulations define the obligation and liabilities very clearly. But also, the cargo owner and warehouse keeper can be responsible in case of harm to a third party. Therefore, it is important that all parties make sure that loads where cargo is not sufficiently lashed and secured, are intervened and stopped before entering public roads, loaded onboard ships or rail wagons.
- It is recommendable to train workers also in cargo safety to give them the right knowledge within correct procedures and securing equipment. In that way they can identify possible hazardous situations.

Condensation

- Large temperature variations create condensation. When cold cargo meets warmer temperatures together with bad ventilation and no dehumidifiers in the warehouse, condensation is most likely to occur.
- Good ventilation and dehumidifiers are essential when storing moisture-sensitive cargo, especially when the cargo may be exposed to large temperature variations.
- Fans in the upper part of the warehouse is another way of handling moisture problem. Those should be connected to a moisture meter so the fans will automatically start when the moisture reach a certain level.
- Another approach that has proven successful in many applications is the widespread and constant air movement created by large-diameter HVLS fans.
- Condensation in containers – see the container checklist.