

DENIOS.

ENVIRONMENTAL PROTECTION & WORK SAFETY

SAFE, OUTDOOR STORAGE OF GAS CYLINDERS.

Gas cylinders are usually stored outdoors, and for good reason: the required ventilation can be implemented easily and in a completely natural way. However, certain important safety regulations must be observed when storing gas cylinders outdoors. Use our checklist to check whether you have thought of all the important requirements for your gas cylinder store - from the selection of a suitable installation site to safe operation.






CHOOSE THE RIGHT INSTALLATION SITE AND ENSURE A PROFESSIONAL STORE DESIGN.

- ☐ The installation site is outdoors, above ground level.
- ☐ The installation site is at least 6.56 ft away from pits, sewer drains, or low-lying spaces.
- ☐ The installation site is located away from emergency rescue routes.
- ☐ The ground is level and has no slope.
- ☐ The foundation has the sufficient load-bearing capacity, is suitable for the intended use, and is durable (for DENIOS gas cylinder stores, construction provides compliance with NFPA codes and OSHA regulations).
- ☐ The foundation enables the gas cylinder store to be anchored.
- ☐ To avoid corrosion damage to the store, no absorbent floors or underlay materials are used.
- ☐ The gas cylinder store is set up so that the required air exchange is ensured, and any gases released cannot disperse in such a way that they cause a risk to other areas.
- ☐ Loads on the store roof due to snow drifts (e.g., due to snow sliding down from higher roofs) are excluded.
- ☐ Forklifts or other means of transport and lifting equipment are prevented from approaching the gas cylinder store (either by positioning them away from internal traffic routes or by installing collision protection systems).

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<input type="checkbox"/>	<p>In the case of acutely toxic (H330) or flammable gases (H221-220), protective areas are set up around the gas cylinder store and the required minimum distances according to TRGS 510 are observed:</p> <ul style="list-style-type: none">- The limit of the protective areas depends on the gas density and must be given special consideration in the risk assessment. For flammable gases, explosion protection measures must be taken in the protective area. For acutely toxic gases, the protective areas must not extend exit or rescue routes.- The minimum distance around the compressed gas cylinders to neighboring installations and facilities is 16.40 ft. The minimum distance can be replaced by a protective wall in non-combustible materials at least 6.56 ft high.
<input type="checkbox"/>	<p>There are no potential ignition sources, or appropriate measures have been taken to exclude ignition sources.</p>
<input type="checkbox"/>	<p>Nearby heat sources have been excluded.</p>
<input type="checkbox"/>	<p>There are no easily combustible materials in the vicinity.</p>
<input type="checkbox"/>	<p>A powder extinguisher is available and easily accessible.</p>
<input type="checkbox"/>	<p>Unauthorized employees are prevented from entering the storage.</p>
<input type="checkbox"/>	<p>The gas cylinder storage is marked with all the necessary symbols. (The symbols are to be selected according to the equipment and use of the gas cylinder storage).</p> <div></div>

WARNING!

In each case, observe the operating instructions for your gas cylinder store and the corresponding installation instructions from the manufacturer. Carry out a risk assessment and implement all national regulations on occupational health and safety, accident prevention, emergency plans, waste disposal, and environmental protection.

ENSURE SAFE OPERATION.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Only tested gas cylinders are stored. |
| <input type="checkbox"/> | There is no increase in risk from storing different types of gas together (e.g., gas cylinders with flammable / oxidizing / toxic contents must always be stored separately from other gas cylinders). |
| <input type="checkbox"/> | Only gas cylinders by the operator's marking are stored. |
| <input type="checkbox"/> | The gas cylinders are stored so they are sorted according to the properties of the gases they contain. |
| <input type="checkbox"/> | Full and empty gas cylinders are stored separately. |
| <input type="checkbox"/> | The gas cylinder supply is optimally organised so that the oldest cylinders are always used first. |
| <input type="checkbox"/> | The load capacity of the gas cylinder store is not exceeded. |
| <input type="checkbox"/> | All gas cylinders are stored upright. |
| <input type="checkbox"/> | The stored gas cylinders are secured against rolling away, falling over, and falling. |
| <input type="checkbox"/> | All gas cylinders with valves are secured with protective caps. |
| <input type="checkbox"/> | All persons working in the gas cylinder storage area wear suitable protective equipment, are professionally qualified, and have been instructed in the handling of gas cylinders (personnel must be regularly, at least twice a year, and made aware of dangers). |
| <input type="checkbox"/> | No dispensing or maintenance work is carried out on gas cylinders in the store. |

COMPLY WITH MAINTENANCE AND INSPECTION OBLIGATIONS.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The maintenance and service intervals for the gas cylinder store are observed. |
| <input type="checkbox"/> | Damage is repaired immediately by authorized specialist employees using accessories and original spare parts approved by the manufacturer. |
| <input type="checkbox"/> | The gas cylinder storage is regularly checked for corrosion and contamination and cleaned if necessary (recommendation: weekly). |
| <input type="checkbox"/> | The floor anchorage of the gas cylinder store is regularly checked for security (recommendation: every 6 months). |
| <input type="checkbox"/> | The roof of the gas cylinder storage is regularly checked for loading (e.g., snow, dirt, leaves) and cleared (recommendation: as required). |
| <input type="checkbox"/> | Locks and hinges are lubricated if necessary (recommendation: annually). |

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FURTHER INFORMATION – LINKS.

PRODUCT WORLD GAS CYLINDER STORAGE AND HANDLING.

DENIOS offers a wide range of reliable and legally compliant products for the storage of gas cylinders outdoors and indoors, as well as for the safe, daily handling of gas cylinders.

 WWW.DENIOS-US.COM/PRODUCT-WORLD-GAS-CYLINDERS



GUIDE TO RISK ASSESSMENT FOR GASES.

Handling gases comes with many dangers – but the right knowledge helps minimize these risks effectively. We help with guidance on how to approach a risk assessment for gases.

 WWW.DENIOS-US.COM/GAS-RISK-ASSESMENT



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