Materials Storage Requirements

KNOW THE LAWS: Materials Storage Requirements Here are the general requirements for storing materials in the OHS regulations in each jurisdiction:	
FED	*Canada OHS Regulations*: 1. All materials, goods and things must be stored in the workplace in such a manner that the maximum safe load carrying capacity of the floor or other supporting structures isn't exceeded [Sec. 14.50(1)]. 2. All materials, goods or things must be stored and placed in such a manner that employees aren't required manually to lift materials, goods or things in a manner that would lead to overextension of or excessive strain on the body [Sec. 14.50(2)]. 3. All materials, goods or things must be stored in a manner so that: a. light in the storage area isn't reduced below the levels required by Part VI; b. there's no obstruction or encroachment of passageways, traffic lanes or exits; c. the safe operation of motorized or manual materials handling equipment isn't impeded; d. the ready access to or the operation of firefighting equipment isn't obstructed; e. the operation of fixed fire protection equipment isn't interfered with; and f. there's no risk to the health or safety of any employee [Sec. 14.50(3)].
AB	*OHS Code 2009*: 1. An employer must ensure that pallets used to transport or store materials or containers are loaded, moved, stacked, arranged and stored in a manner that doesn't create a danger to workers [Sec. 187(1)]. 2. An employer must ensure that racks used to store materials or equipment: a. are designed, constructed and maintained to support the load placed on them; and b. are placed on firm foundations that can support the load [Sec. 187(2)]. 3. A worker must report any damage to a storage rack to an employer as quickly as is practicable [Sec. 187(3)]. 4. The employer and the workers at a work site must take all reasonable steps to prevent storage racks from being damaged to the extent that their integrity as structures is compromised [Sec. 187(4)]. 5. If a worker may be injured if material is dislodged, moved, spilled or damaged, both the employer and the worker must take all reasonable steps to ensure the material is contained, restrained or protected to eliminate the potential danger [Sec. 189].
BC	*OHS Regulation*: 1. Material and equipment must be placed, stacked or stored in a stable and secure manner [Sec. 4.43(1)]. 2. Stacked material or containers must be stabilized as necessary by interlocking, strapping or other effective means of restraint to protect the safety of workers [Sec. 4.43(2)]. 3. An area in which material may be dropped, dumped or spilled must be guarded to prevent inadvertent entry by workers, or protected by adequate covers and guarding [Sec. 4.45].

MB	*Workplace Safety & Health Regulation*: 1. An employer must ensure that all workplace materials are stored in a manner that doesn't create a risk to the safety or health of a worker or affect the safe operation of the workplace [Sec. 7.1]. 2. An employer must ensure that the safe loading conditions for a permanent or temporary building or structure, as specified in the *Manitoba Building Code* or the design specifications of a professional engineer, aren't exceeded when it's used to store materials [Sec. 7.2(1)(b)]. 3. An employer must ensure that all racks and frames used to store materials are: a. designed, constructed and maintained to support the load placed on them; and b. placed on firm foundations that can support the load [Sec. 7.4(1)]. 4. An employer must ensure that commercially manufactured racks and frames are installed, used and maintained in accordance with the manufacturer's specifications [Sec. 7.4(2)]. 5. An employer must ensure that racks that exceed a 3:1 height-to-depth ratio are suitably anchored, externally braced or properly secured to a building or structure [Sec. 7.4(3)]. 6. An employer must ensure that all racks and frames used outdoors to store materials are designed, constructed and maintained to support loads placed on them by wind, wind gusts and other environmental conditions [Sec. 7.4(4)]. 7. An employer must ensure that materials are stored on level and stable platforms and aren't piled to a height that could endanger the stability of the pile [Sec. 7.6(a)]. 8. An employer must ensure that bricks or other masonry building materials aren't piled more than 2 m high, unless the pile is tapered back to one-half block per tier above the two metre level [Sec. 7.6(b)(i)]. 9. An employer must ensure that structural steel material, including poles, pipe, or bar stock, are stacked in racks or frames, or otherwise suitably restrained to prevent movement [Sec. 7.6(b)(ii)]. 10. An employer must ensure that bagged or loose materials are supported to prevent movement [Sec. 7.6(b)(iii)]. 11. An employer must ensure that if materials are stored outdoors, the effect of wind, wind gusts and other environmental conditions are considered when determining the manner of stacking and storing the material [Sec. 7.6(c)].
NB	*OHS Regulation*: 1. An employer must ensure that materials aren't stored or located in a place of employment so as to create a hazard to an employee [Sec. 16]. 2. An employer must ensure that a bin, hopper or process vessel used to store bulk material: a. is designed and built for removal of the material from the bottom; b. if the material is highly combustible, is provided with a lid and an adequate ventilation system and is fire resistive; and c. where appropriate, is provided on the outside with stairways or fixed ladders with platforms and guardrails [Sec. 54(c)]. 3. An employer must ensure that unconsolidated bulk material that's stockpiled is: a. regularly inspected for hazardous conditions; and b. found to be in a safe condition before an employee is permitted to work close to or on top of the pile [Sec. 56(1)]. 4. Where unconsolidated bulk material is stockpiled and removed by means of powered mobile equipment, an employer must ensure that: a. the working face of the unconsolidated bulk material is sloped at an angle of repose; and b. the vertical height of the working face of the unconsolidated bulk material isn't more than 1.5 m above the maximum reach of the equipment [Sec. 56(2)]. 5. An employer must ensure that piled solid material is: a. located so as not to interfere with: i. illumination; ii. ventilation; iii. means of access and egress; iv. passageways or traffic lanes; v. the operation of machines; vi. sprinklers and firefighting equipment; and vii. electrical panels or energized electrical lines [Sec. 57(1)(a)]; b. located on a firm foundation strong enough to support the load [Sec. 57(1)(b)]; c. located so that the pile isn't resting against a partition or wall of a building unless the partition or wall is strong enough to support the load [Sec. 57(1)(c)]; d. subject to Sec. 57(2), stacked in a manner to make it stable [Sec. 57(1)(d)]; and e. protected from conditions that may damage the structural integrity of any container used to store the material [Sec. 57(1)(e)]. 6. An employer must ensure that pipe and bar stock is stacked: a. on storage racks; or b. where storage racks aren't practical: i. in layers resting on wood strips with stop bars fixed on the ends, or ii. on metal bars with upturned ends, so that the storage or withdrawal of the stock doesn't create a hazard [Sec. 57(2)].
NL	*OHS Regulations, 2012*: 1. Material must be placed, stacked or stored in a stable and secure manner that doesn't constitute a hazard to a worker who's in the area or who's manually stacking the items [Sec. 31(1)]. 2. Stacked material or containers must be stabilized where necessary by interlocking, strapping or other effective means of restraint [Sec. 31(2)]. 3. An area in which material may be dropped, dumped or spilled must be guarded to prevent inadvertent entry by a worker, or protected by adequate covers and guarding [Sec. 31(4)].

NT/NU	*General Safety Regulations*: 1. Material must be so placed, stored or stacked so as not to constitute a hazard to workers [Sec. 27]. 2. Stacked materials or containers must be stabilized where necessary by interlocking strapping or other effective means of restraint [Sec. 28]. 3. An area in which materials may be dropped, dumped or spilled must be barricaded and designated by warning signs to prevent the inadvertent entry of a person [Sec. 29].
NS	*OHS Regulations*: 1. An employer must ensure that a bin, hopper, tank or other similar structure used to store combustible bulk material has: a. a lid, an adequate ventilation system and is fire resistant; or b. alternative measures that provide an equivalent level of safety [Sec. 30]. 2. An employer shall ensure that piled material is: a. located so as not to interfere with: i. illumination; ii. ventilation; iii. means of access and exit; iv. passageways or traffic lanes; v. the operation of machines; vi. sprinklers and firefighting equipment; and vii. electrical panels or energized electrical power lines [Sec. 32(a)]; b. located on a firm foundation that is able to support the load [Sec. 32(b)]; c. located so that the pile isn't resting against a partition or wall of a building unless the partition or wall is strong enough to support the load [Sec. 32(c)]; d. arranged in a manner to make it stable [Sec. 32(d)]; e. protected from conditions that may significantly damage the structural integrity of any container used to store the material [Sec. 32(e)]; and f. regularly inspected for hazards [Sec. 32(f)]. 3. Where pipes, bar stock or other material or objects may create a hazard by rolling, an employer must ensure that the piled material is stacked in a manner to prevent rolling [Sec. 33]. 4. Where unconsolidated bulk material is stockpiled, an employer must: a. ensure that it's inspected by a competent person to determine if it's in a safe condition before a person is permitted to work close to or on the pile; and b. comply with the requirements of Secs. 185 to 189 of these regulations [Sec. 34(1)]. 5. Where unconsolidated bulk material is stockpiled and removed by means of powered mobile equipment, an employer must ensure that: a. the working face of the unconsolidated bulk material is sloped at the angle of repose; and b. the vertical height of the working face of the unconsolidated bulk material isn't more than 1.5 m above the maximum reach of the equipment [Sec. 34(2)].
ON	*Industrial Establishments Regulation*: 1. Material, articles or things must be transported, placed or stored so that the material, articles or things: a. won't tip, collapse or fall; and b. can be removed or withdrawn without endangering the safety of any worker [Sec. 45]. 2. Material that may tip or fall and endanger any worker must be secured against tipping or falling [Sec. 46]. 3. Cylindrical objects stored on their side must be piled symmetrically with each unit in the bottom row chocked or wedged to prevent motion [Sec. 47]. 4. Barrels, drums or kegs that are piled on their ends must have two parallel planks placed on top of each row before another row is added [Sec. 48]. *Construction Projects Regulation*: 1. Material at a project must be stored and moved in a manner that doesn't endanger a worker [Sec. 37(1)]. 2. No material to be moved by a crane or similar hoisting device must be stored under or in close proximity to an energized outdoor overhead electrical conductor [Sec. 37(2)]. 3. Material at a project must be piled or stacked in a manner that prevents it from tipping, collapsing or rolling [Sec. 39]. 4. No material shall be stored, stacked or piled within 1.8 metres of: a. an opening in a floor or roof; b. the open edge of a floor, roof or balcony; or c. an excavation [Sec. 40(1); exceptions to this requirement spelled out in Sec. 40(2) and (3)].

PE	*OHS Regulations*: 1. No person shall stock or pile any material in the project so as to endanger the safety of employees [Sec. 27.5]. 2. The employer must ensure that a temporary storage structure is: a. designed and constructed to withstand safely the loads imposed by the material to be stored; and b. not be loaded in excess of safe loading [Sec. 43.1]. 3. The employer must ensure that building materials aren't placed or stored on a permanent or temporary structure so as to exceed the safe loadings of the structure or any part thereof [Sec. 43.2]. 4. The employer must ensure that no building material is stored, stacked or piled within 1,800 mm (72 in.) of: a. a floor or roof opening; b. the open edge of a floor or roof; or c. an excavation [Sec. 43.3]. 5. The employer must ensure that material is piled so that the piles won't interfere with: a. the adequate distribution of natural or artificial light; b. the proper operation of machines or other equipment; and c. the unobstructed use of passageways or traffic lanes [Sec. 43.4(1)]. 6. Material piles must be placed on firm foundations not liable to settle and must be subject to weight control, as required by the Division, so as not to overload the floors [Sec. 43.4(2)]. 7. Material must not be piled against partitions or walls of buildings when it's known that the partition or wall isn't of sufficient strength to withstand the pressure [Sec. 43.4(3)]. 8. Material must not be piled to a height which would render the pile unstable [Sec. 43.4(4)]. 9. When piling heavy bagged material: a. the mouths of the bags shall be placed inwards; b. bags shall be cross-tied; and c. a step back of one bag shall be made at the first 1,500 mm (5 ft.) level and at each additional 900 mm (3 ft.) of height [Sec. 43.4(5)]. 10. The employer must ensure that masonry units are stacked: a. on level wooden planks, a platform or other level base; b. in tiers throughout a pile; c. so that a vertical face of a pile is not over 1,800 mm (72 in.) in height; d. when the pile exceeds 1,800 mm (72 in.) in height, by progressively stepping the pile back from the vertical face; e. when the pile exceeds 1,800 mm (72 in.), with wood strips between tiers to prevent toppling; and f. with header units in the pile where necessary to provide stability [Sec. 43.5]. 11. Reinforcing steel and pipe must be stacked in substantially supported and broad racks or frames, unless other provision is made to prevent their movement sideways [Sec. 43.6]. 12. The employer must ensure that other materials to be used on the project are stored in an orderly manner and so as not to endanger the safety of employees [Sec. 43.7]. 13. Unless specific instructions are given to the contrary, loaded boxes and crates must be piled on the sides having largest area [Sec. 43.8(g)]. 14. The piles must be effectively cross-tied by suitable means [Sec. 43.8(h)]. 15. Loaded cartons must not be piled to such a height as to cause collapse of the lower cartons in the pile and must be protected against moisture [Sec. 43.8(i)]. 16. Lumber stored in yards must be piled on supports above the grounds, the horizontal or slightly inclined layers separated by tie pieces, the ends of which won't project into walkways [Sec. 43.8(j)]. 17. Pipe and bar stock must, where practicable, be piled on stable storage racks so located that the withdrawal of the material doesn't create a hazard [Sec. 43.8(k)]. 18. Where empty barrels or drums, large pipe, rolls of paper or other cylindrical objects are piled on their sides, the piles must be symmetrical and stable; and every unit in the bottom row must be carefully wedged [Sec. 43.8(l)]. 19. Where storage racks aren't provided for pipe and bar stock, the stock must be piled on layers resting on wood strips with stock blocks fixed on the ends or on metal bars with unturned end [Sec. 43.8(m)]. 20. Where loaded barrels, drums or kegs are piled on their ends, the piles should be low and two planks should be laid side by side on top of each row before another row is started [Sec. 43.8(n)]. 21. Equipment or objects, such as foundry flasks, forging dies, foundry castings and the like, must be piled in a stable, orderly way on level and substantial foundation and arranged in order of size and type [Sec. 43.8(o)].
QC	*Regulation respecting occupational health and safety*: 1. Piling of materials must be performed such that the piles don't obstruct: a. the proper distribution of natural or artificial lighting; b. the proper operation of machines or other facilities; c. traffic in passages, aisles, stairs, elevators and near doors; d. access to electric panels; e. access to showers and other emergency equipment; and f. the efficient operation of automatic sprinkler systems or access to firefighting equipment (the distance between the pile and the sprinkler must not be less than 450 mm) [Sec. 288]. 2. No material shall be piled against building walls or bulkheads without there being a previous determination that such walls or bulkheads can withstand the lateral pressure [Sec. 289]. 3. Material must not be piled to a height that may compromise the stability of the pile [Sec. 290].

SK	*OHS Regulations*: 1. An employer, contractor or owner must ensure that: a. no material or equipment is placed, stacked or stored so as to constitute a hazard to workers; and b. stacked materials or containers are stabilized, if necessary, by interlocking, strapping or other effective means of restraint [Sec. 129]. 2. An employer, contractor, owner or supplier must ensure that racks for the storage of material or equipment are: a. designed, constructed and maintained to support any load placed on the racks; and b. erected on a firm foundation [Sec. 130(b)]. 3. An employer, contractor, owner or supplier must ensure that material racks are designed and constructed to prevent material from rolling off the rack [Sec. 434(1)].

YT	*OHS Regulations (Part 8)*: 1. Materials must be placed, stacked or stored so as not to constitute a hazard to workers [Sec. 8.02(1)]. 2. Stacked containers and materials must be stabilized by interlocking strapping or other effective means of restraint [Sec. 8.02(2)]. 3. Pallets must be stacked and maintained in a manner that permits safe lifting of the pallets or pallet loads by a forklift, truck or other device [Sec. 8.02(3)]. 4. Storage racks and foundations must be designed, constructed and maintained to support the load placed on them [Sec. 8.02(4)]. 5. Material to be moved by a crane or similar hoisting equipment must not be stored under or in proximity to an overhead energized electrical conductor [Sec. 8.04(1)]. 6. Unconsolidated bulk material must be regularly inspected for hazardous conditions [Sec. 8.05(1)(a)]. 7. Where unconsolidated bulk material is removed by powered mobile equipment: a. the working face of the unconsolidated bulk material must be sloped at the angle of repose when workers will be near the face; or b. the vertical height of the face must not be more than 1.5 m (5 ft.) above the maximum reach of the equipment when workers remain in the equipment at the face [Sec. 8.05(2)]. 8. Any bin, hopper or process vessel used to store bulk material must be: a. designed and built to allow removal of the material from the bottom; b. provided with a proper lid, ventilation system and be fire resistant if the material is highly combustible; and c. equipped, where appropriate, with stairways or fixed ladders with platforms and guardrails on the outside [Sec. 8.07]. 9. Piling of solid material must be: a. carried out in a manner that doesn’t interfere with: i. illumination; ii. ventilation; iii. means of access and egress; iv. passageways or traffic lanes; v. the operation of machines; vi. sprinklers and firefighting equipment; and vii. electrical panels or energized electrical lines [Sec. 8.09]. 10. Pipe or bar stock must be stacked: a. on storage racks; or b. where storage racks aren’t practicable: i. in layers resting on wood strips with stop bars fixed on the ends; or ii. on metal bars with upturned ends, so that the storage or withdrawal of the stock doesn’t create a hazard [Sec. 8.10]. 11. When piling heavy bagged material, the bags must be: a. placed so the mouths of the bags are facing inward; b. cross-tied; and c. piled so a step-back of one bag is made at the first 1.5 m (5 ft.) high level and at each additional 1 m (3 ft.) height [Sec. 8.11]. 12. Loaded boxes, crates or cartons must be piled on the side having the largest area, unless instruction has been given to the contrary [Sec. 8.12(1)]. 13. Piles of boxes, crates or cartons must be cross-tied by suitable means [Sec. 8.12(2)]. 14. Loaded cartons must not be piled to a height that will collapse the lowest carton [Sec. 8.12(3)], which must be protected against moisture on the ground or floor [Sec. 8.12(4)]. 15. Lumber must be: a. piled neatly; b. supported above ground; c. stacked with horizontal or slightly inclined layers separated by pieces of material between lifts; and d. stabilized by means of transversal supports, where a pile is more than 1.2 m (4 ft.) high [Sec. 8.13]. 16. Where cylindrical objects, such as empty barrels, drums, large pipes or rolls of paper are: a. piled on their sides: i. the pile must be symmetrical and stable; and ii. every unit in the bottom row must be carefully wedges; or b. piled on their ends: i. the piles must be low; and ii. two planks must be laid side by side on top of each row before another row is started [Sec. 8.14]. 17. Masonry units must be stacked: a. on planks, a platform or other level base; b. in interlocking layers covering the entire area of the stacks; c. in such a way that the height of the vertical face of a stack doesn’t exceed 1.8 m (6 ft.); and d. when the height of the stockpiling exceeds 1.8 m (6 ft.): i. with wooden transversal supports between the layers to prevent the pile from collapsing; and ii. bound together, so as to ensure the stability of the pile [Sec. 8.15].