

劳动安全、健康和环境工作手册

SAFETY HEALTH & HOUSEKEEPING MANUAL

(本手册代培训教材)

(THE MANUAL REPLACES TRAINING MATERIAL)

SAFETY

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第一章 总则

- 一， 为了把工作环境中的危险因素减少到最低限度，以预防来源于工作、与工作有关，或在工作过程中发生的事故和对健康的危害，制定本手册。
- 二， 本手册系根据《美国安全与健康培训手册》编写，在这里将向您介绍什么是安全的环境，安全的工作方法，以及怎样使用安全用品。
- 三， 为了您的健康您家庭的幸福请记住本手册，遵守本手册。
- 四， 领导者的责任是教育、监督，并带头执行本手册。
- 五， 职工的责任就是按照安全规程行事，并向领导反馈不安全因素。

第二章 事故原因及防治方法

事故的发生决非偶然，多数事故是由不安全的行为引起，有些则来自不安全的生产条件。

一， 容易导致事故行为：

- 1， 不使用劳动防护用品。
- 2， 不符合劳动安全规定的穿着和打扮。
- 3， 不符合操作规程的工作行为。
- 4， 工作时间精力分散，闲谈打闹。

二， 容易引起事故的条件：

- 1， 工作环境不清洁。
- 2， 材料堆放不符合要求。
- 3， 设备防护装置损坏。
- 4， 高噪音，低照明。

三， 防治事故的方法：

- ◇ 设置安全通道；
- ◇ 采用安全的工作方法；
- ◇ 消除不安全因素；
- ◇ 时刻警惕和注意。

请记住：没有一套规定能涉及所有领域，还有的可能与某些协议或文件相抵触，但有一点是不变的：*问你的领导。*

1. 如果你不知到做某项工作的安全方法应向你的领导请教，注意他是怎么说的。
2. 保持警惕，知道怎样应付紧急情况，记住灭火器、消防栓的位置，记住消防及紧急救援电话。
3. 工作区内严禁喝酒，一旦发现立即开除！
4. 发现不安全因素请马上向领导或安全员汇报。
5. 帮助新工人或没有经验的工人，告诉他们那些是危险的，如何安全的工作。
6. 通知所有可能因为你的工作而受伤的人。和他人一起工作，卸重物或做可能伤害他的事之前一定要通知他。在确信下面没有人之前不要向下扔任何物品。
7. 禁止打闹，一旦发现立即处罚。
8. 注意遵守任何警告。
9. 物尽其用。
10. 穿和体的服装，尤其是在运动的机器周围，不要穿松松垮垮的衣服或戴首饰。
11. 学会用正确的方式提升重物：屈膝，保持背部直立，搬过重物品

应在别人帮助下进行。

12. 不要跑，注意脚下，保持步幅，任何时候都要保持平衡。

缺乏安全常识不能成为违章的借口。

- ◇ 对职工安全健康工作的有效管理对于减轻工作伤害，降低职业病发生率及相关费用至关重要。
- ◇ 领导应建立并保持一套适用于单位的系统的政策规定。帮助工人意识到工作中存在的危险，保护他们不受伤害。
- ◇ 安全工作中最重要的因素是你。执行安全规定与否由你决定——它们是为保护你制定的。任何类型的伤害、危险都应马上汇报。

第三章 避免火灾

一、火的常识

- 1, 火的燃烧必备三个因素：可燃物、火种和空气（氧气），断其一点即可灭火。
- 2, 火灾的类型：
 - ◆ 最常见的火灾。火灾源为木头、纸、橡胶、塑料等。**可用水、干粉、泡沫灭火器。**
 - ◆ 易燃气体、液体或甘油等。这类物品造成的火灾很难扑灭。**需要用特殊的灭火器（干粉、泡沫）**
 - ◆ 由易燃金属引起的火灾，如镁、钛、锆、钠等。

由电路引起的火灾，扑救时必须**先断电，后扑救。**

注意：

- ◇ 好的工作环境可避免火灾。
- ◇ 好的工作经验可避免火灾。
- ◇ 好的工作习惯可避免火灾。

二、防火安全

- ◇ 每个人都应知道灭火器的确切位置，尤其是本人工作区附近的灭火器材。
- ◇ 万一发生火灾，不要紧张，首先应考虑人员安全，发出警报，待所有人员安全疏散后再抢救财产。
- ◇ 不要随意改装灭火器材，非灭火不要随意搬动。
- ◇ 灭火器材附近必须保持清洁，不许堆放杂物。
- ◇ 应设置投放杂物的垃圾桶。碎屑杂物等随手丢进垃圾桶，消除火灾隐患。
- ◇ 油料搬运或暂时储存时应使用安全的容器盛放。
- ◇ 不要在汽油存放区内吸烟。
- ◇ 使用气割或电焊工具时应有防护用品。
- ◇ 给车辆加油时储油桶应放在地上。
- ◇ 保持工作场所干净整洁，物品存放有序，这样可以消除火灾隐患。
- ◇ 不要用易燃易爆的危险品清洗零件或工具。
- ◇ 存放易燃品的容器应有明确标志，并注明其化学成分。
- ◇ 给车辆加油时必须关闭引擎。
- ◇ 工作区不得有明火。

- ◇ 使用便携式加热装置时必须远离易燃品。
- ◇ 所有材料的存储、处理及堆放都必须考虑其化学特性。
- ◇ 了解你所接触的化学品 ,在火灾发生时给消防员以适当的提醒。

三，紧急出口

- ◇ 所有建筑物应建有紧急出口。
- ◇ 在危险地区或烟、火有可能堵塞出口的地方，应设有两个出口且距离较远。
- ◇ 紧急出口和通往出口的通道必须保持畅通无阻，任何时候都可通过。
- ◇ 所有出口应直接通往街道等开放的空间。
- ◇ 供 50 人出入或危险地区的紧急出口应向撤离方向打开。
- ◇ 出口应有明显标志，紧急出口的标志应与周围环境有明显区别。
“**紧急出口**”应高于 6 英寸（152 毫米）的印刷体。
- ◇ 不是出口但容易被认为是出口的门、通道等处，应标明“**不是出口**”或类似标志。

第四章 环境卫生

一， 场所

- 1, 所有工作场所、通道、库房和办公室都应保持良好卫生，清洁有序。
- 2, 干净整洁的工作环境有助于减少火灾的可能性，降低事故发生率，因此请从自己做起，保持良好的工作环境。
- 3, 将材料码放整齐，按正确方法存放。
- 4, 木材上及开启的包装上的钉子应及时拔掉或砸弯。桶周围的钉子应在开盖时拔掉。

二， 垃圾

- 1, 工作后应打扫卫生，将废弃物扔进垃圾桶。
- 2, 不用的水杯、废弃物等杂物应及时处理。
- 3, 所有的垃圾、固体、液体废料都应尽快清除，以避免危害健康或影响环境整洁。
- 4, 不得随意丢弃烟头。

三， 地板

- 1, 所有地板表面应保持清洁、干燥，并且无地脚螺钉、碎屑、松动板、坑或凸台。
- 2, 潮湿的工作场所，应保持地漏通畅，如有必要应为操作员提供临时地板、脚踏板、垫子或其他干燥的供站立的地方。

第五章危险能源控制（上锁/加标签）

一， 定义

- 上锁是防止能量从电源流入设备的一种方法，它通过把锁定装置（开关）安装在电源上，让使用该能源的设备无法运转。
- 加标签是将标签放在能源上，标签是警告人们不要使用能源，而其本身不能达到阻止能源泄漏的目的。

二， 能源动力部门应按标准做到：

制定书面能量控制计划，详细解释上锁/加标签程序。

对有关人员进行培训包括：

- ◇ 如何关闭设备
- ◇ 如何隔绝设备
- ◇ 如何安装和拆除锁定装置
- ◇ 如何将储存的能量安全释放到零状态

对实际操作者的培训应包括：

- ◇ 什么是危险能源
- ◇ 鉴别工作区内的能源
- ◇ 进行上锁、关闭、开启操作

三， 需要上锁的能源

- 电力装置
- 机动装置（滑轮、车轮、齿轮、车辆）
- 气动装置
- 液汽装置
 - 液压、气压
 - 热力（蒸汽或热水）
 - 高压水
 - 重力
 - 天然气

四， 能量意外泄漏的危害

- 意外启动
- 电冲击
- 致残或致死

五， 上锁/加标签程序

上锁/加标签过程包括：

- 关闭设备。
- 隔绝设备。
- 锁定装置的安装和拆除。
- 将能量安全释放到零状态。

六， 设备关闭和隔绝

- 通知所有有关人员马上进行上锁程序。
- 找到设备所有电源，包括隐蔽的电源。
- 如果设备有一处以上的电源，你必须确保知道机器及所有电源的位置。

七， 锁定装置的锁定、开启

- 按照规定关闭设备。
- 切断总闸。
- 再将设备的开关打开以确保总闸确实已经关闭。
- 试着将设备重新启动以确保能量以隔绝，然后再将开关扳回零位置。
- 用你自己的锁锁定全部有关电源。
- 检查锁定装置以保证设备无法启动。
- 如果几个人共同用一台设备，则每个人都需有一把锁，当另一工人正在使用机器时可防止意外启动。
- 如果所有能源都已锁定，应通知其他人员，通知的方法是在能源处加标签。
- 进行维护保养工作前设备必须处于能量为零状态。
- 打开阀门，放出系统内的气体或储存的高压液体，或用适用于公司设备的具体方法释放设备中的能量。
- 检查机器，确保所有能量都已被释放。
- 维修保养结束后，拿走所有工具，把保护装置放回原处。
- 撤掉标签。
- 接通电源。
- 启动设备。

第六章 工具设备

一、 压缩气体

- 只能使用经有关部门认可的气瓶。
- 气瓶只能按正确的方法搬运或滚动，不能拖、扔或用电磁铁、吊绳等搬运。（除非吊绳附有特为气瓶设计的托板）
- 所有气瓶都应被当作满的气瓶妥善处理。
- 气瓶应在通风处存放，远离热源。如果存放在楼内，则应远离各种炉子、加热器，及油、锯屑、刨花等易燃物。
- 气瓶应稳妥的放在指定位置，远离电梯或过道，因为在这些地方气瓶容易被撞倒或被倒下的东西砸坏。
- 在楼内不要将氧气瓶和乙炔或其他类的气瓶放的过近。
- 如果气瓶存放于户外，应远离冰或积雪，如果周围气温较高，应避免阳光直射。

二、 叉车

A：叉车的使用规定

- 只有经过培训并经认可的人员方可驾驶叉车（驾驶证）
- 只有指定的人员方可驾驶叉车。（岗位证）
- 不得使用带故障的叉车，无论何时出现故障都应停止工作直到修好为止。
- 除非工作条件不允许，否则高举的叉车都应有过头保护。
- 叉车装载的货物威胁到操作员时，应在叉车上安装过头保护装置。
- 给卡车装货时，卡车不仅要制动，还应在后轮塞上楔子以避免其转动。

B：叉车安全行驶规则：

- 右侧行驶。
- 不超速行驶。
- 与其他车辆保持三个车长距离。
- 路口减速。
- 人在车右侧。
- 不要在车上做危险动作。
- 不要骑在车上、座位上或车背上。
- 手臂不要伸出车外。
- 面对叉车前进方向。
- 任何时候都应知道你的车在何处。
- 注意头顶上的东西，在立体仓库作业必须戴安全帽。

- 注意清理油污。
- 注意光线变化
- 不要拖、拉货物。
- 小心货物的边缘。
- 往车上装卸货物时，用东西楔住车轮避免车子移动。
- 升降货物前，将车子停稳后再升降。
- 确保叉车完全伸入货盘。
- 不载超高货物。
- 确保货物平衡且稳定后再启动。
- 不能搬动货盘已经损坏的货物，不要运送超过叉车的承载能力或不稳定货物。

C：叉车的维修和保养

由于一个公司有不同厂家生产的不同型号的叉车，在驾驶前亲自检查一下是必要而且重要的。

应进行以下工作：

- 检修后检修工应向操作者报告修理情况。
- 修理后的检查
- 不要使用不安全设备
- 是否为操作者安装安全防护装置，许多事故是由于操作者被装置绊倒或弹起造成
- 给装置补充能量至关重要

D：安全检查应做如下工作：

- 检查叉车制动装置
- 检查车盖及零件
- 检查轮子及轮胎
- 检查损坏或松动的零件
- 检查燃料、曲轴箱油位、散热器水位、空气滤清器、风扇皮带、液压油、电池和特殊型号的叉车要求的其他方面。

E：操作者应在座位上检查：

- 刹车
- 油压表、水温表、安培表

F：启动后检查：

- 操纵，车轮转动应轻松自如，在停止前不能发出尖叫声
- 小时计、前灯、尾灯、警灯及其他灯
- 离合器
- 液压和其他控制

G：运货

- 让操作者将货物运到目的地，让工人进入车内并注意他们是否在启动叉车时进行必要的检查。

- 如果工厂内有斜坡，操作者在上岗前应进行载货上下坡，让他们练习在拥挤的地段运货，帮助他们熟悉驾车环境。
- 要提高操作者安全意识，应该引起操作者的重视从而减少由于他们疏忽而造成的材料浪费。

三， 机器保护装置

- 如果工人在操作机器时有可能被扎伤、夹伤或被旋转、飞溅出的零件伤害，则应在机器上安装保护装置，保护装置本身不得有造成人身伤害的可能。
- 操作者的保护装置的作用是保护工人在操作进行过程中，身体任何部分都不会进入危险区域。
- 移动材料用的工具应有保护装置，以防工人把手放在危险位置。

四， 电动工具

A：使用电动工具时你必须做到：

- 穿上合适的个人保护装置。
- 按规程保养工具。
- 使用工具所带的安全装置，这包括机器保险、手动开关、安全锁。
- 正确的使用工具，配件应配套。

B：电动工具伤害的两个来源：

- 来自设备内部，例如电、叶片和其他运动部件。
- 来自设备外部，例如飞溅物和火花。

C：一般安全规程：

- 保持工作场地清洁。
- 保持工具尖利、润滑（或其他保养）放在安全干燥处。
- 定期检查你的工具，但不能使用你没有获得使用资格的工具。
- 使用工具附带的安全装置，包括：支架（三脚架）、双倍绝缘和安全保险功能。
- 确保机器的防护罩还在，使用安全眼镜，耳朵保护装置和适当的保护面罩。
- 穿适当的工作服，摘下首饰。
- 携带工具应握手柄，保持线路清楚松弛。
- 选择大小适当的工具，包括所有附件。

第七章 个人防护

一、 个人防护

- 对于一些有可能飞溅碎屑或液体,或可能产生强光的特殊工作岗位,如电焊、磨削等,请戴上防护眼镜。
- 针对不同的工作岗位佩戴不同的防护手套。
- 工人应穿安全鞋。
- 在距地面 1.5 米或更高的地方工作应系安全带或其他类型的保护装置。
- 应按规定着装工作服,不得穿松松垮垮或不整齐的衣服上班。
- 不得将锋利的工具放在衣兜内。
- 电动设备一定要有防护罩。如果设备维修需要取下防护罩,那么维修后设备启动前应将防护罩安装回正确位置。

二、 眼的保护

A：对于出现在下列场所的人必须进行适当的眼睛保护：

- 灰尘、粉末、烟、油雾（空气中非常小的颗粒）
- 飞溅物，也包括各类型的液体
- 强光，例如；电焊的电弧
- 辐射（热和光，光中包括一种新的危害—激光）
- 机械的刺激剂
- 多种危害的混合

这适合于管理者、负责人、来访者包括管理者和职员。

B：保护的类型

每一种眼睛保护针对一种特殊的伤害。

典型的眼睛保护包括：

- 安全眼镜
- 防尘
- 面罩

C：选择适当的眼镜

- 防尘镜、安全眼镜和面罩的选择应由专业人员进行。
- 应从合格的光学专家那里买合适的眼睛保护器具。

D：检验和保养

- 如果镜片脏的使你看不见东西，那么它对眼睛也不会有好的保护

效果。

- 通过脏镜片看东西不仅会引起眼睛紧张，而且工人经常会以此为原因不进行眼睛保护。
- 很明显，保护眼睛最重要的一点是消除工作场所的危害。

E：焊接、切割操作必须进行眼睛保护

三、脚的保护

A：对脚有危害的情况包括：

- 利物或重物落在脚趾上或脚面上。
- 挤压—脚或脚趾被两件物品挤压或被物体碾过。
- 戳刺—锋利的物品划破脚底。
- 触电—与输电线或其他设备接触使脚遭受电击。
- 滑倒—在水、油或化学品表面打滑或跌倒。
- 化学品—化学品或溶剂将一般的鞋腐蚀并对脚造成伤害。
- 温度—绝热或通风造成的太热或太冷对脚造成的伤害。
- 长期潮湿还会使脚感到不适和感染。

B：鞋的类型

- 对不同类型的危险品有不同的鞋对脚进行保护。
- 多样的选择可以满足工人不同的岗位的不同要求。
- 鉴于我们都经历过鞋不合适带来的痛苦，因此鞋或靴一定要适合自己的脚，这是一个基本常识。如果你的鞋穿坏了或由于不合适被弃之不用，他们就达不到保护的目的地了。

四、手的保护

A：对手较为常见的伤害来源于：

- 机械，包括：切割、冲压、碾或擦伤。
- 过冷或过热。
- 电击或烧伤。
- 化学品或病菌对皮肤的刺激，常称为“接触性皮炎”。

B：错误保护的危險

使用错误的保护装置可能比不用更糟，因为在没有保护时你至少会更注意些。

C：保护器材类型

- 手套是最常见的保护品。但使用任何一种手套工作或接近机械时都应特别注意，因为手套本身并不能消除危险。
- 工程控制是最好的保护。先进的工艺、科学的防护装置是我们追求的目标。

五， 防止打滑、磕绊、摔倒

A：打滑、磕绊、摔倒的原因

- 摩擦力—阻止两个相对运动物体之间的一种阻碍。例如两脚与路面之间的力。
- 动量—速度与质量的速度，也就是说相同质量的物体以较高的速度运动比以较低的速度运动有更大的能量。
- 引力—当你摔倒时，这是一个推动力，因此很重要的一点是保持力的平衡以使你不至于摔倒。

B：减少打滑、磕绊、摔倒的方法

- 安全行走的技巧，如果你必须要走在一个潮湿的表面，甚至只是通过停车场到工作间，也应小步轻轻的走。
- 清除地面水迹。
- 别让车间地板上或靠近机械的地方有油脂。

C：减少打滑、磕绊、摔倒的工作规程

- 预先查看你将搬运的重物
- 确信光线适当
- 保持工作场地的工件摆放有序，无杂物
- 通道和其他通过区的通畅
- 做出明显的分界线将工作区与通道分开
- 不从任何高台上跳下，如叉车、站台或升降机
- 报告所有这些问题，包括：地毯不平、楼梯或栏杆有裂纹
- 在任何时候保持平衡

六， 梯子使用

- 使用真正的梯子，决不能用箱子、椅子或工作台代替梯子
- 使用前检查梯子，不能用没有梯级或有其他问题的梯子
- 当你登梯子时，应面对梯子使用两手，用升降机为你输送材料和工具
- 保持重心靠近梯子，调整梯子的位置，不要过高
- 不能多人同时用一台梯子
- 不能站在伸展性梯子的顶部
- 如果你不用梯子，不要离梯子太近，以免物体落下或梯子不平衡

七， 乘车

- 从家到乘车点到家请遵守交通规则。
- 车辆停稳后方可上下车。

- 上下班应保持秩序，不得拥挤、争抢座位。
- 下车时注意来往车辆，确认安全后稳步下车。

附 1：国家对上下班途中发生交通事故的处理规定：

“企业职工上下班时间在上下班必经路线途中发生交通事故，经交通监理单位鉴定裁决，事故主要责任不应由职工个人负责的，可以比照因工伤残的规定处理”。“事故主要责任属于职工个人的，应按非因工处理”

—————（《冀劳险字[1993]417 号》《冀劳险字[1991]111 号》）

附 2：劳动安全奖惩规定--LVLB

奖励：

每年年底评选劳动安全模范，将给予物质奖励。

依据：执行劳动安全规定彻底，表现优秀；

对公司劳动安全工作提出改进意见。

处罚：

A：对有下列行为者，单次单项处罚人民币 10 元：

- 1) 非叉车驾驶员未经有关部门特许驾驶叉车。
- 2) 超速驾驶叉车，开车时打闹。
- 3) 驾驶有故障叉车。
- 4) 脚踩叉件用小叉车滑行。
- 5) 使小叉车自由滑出，撞物停止。
- 6) 油脂搬运、填加过程中泄漏不立即清理。
- 7) 未经允许挪动或破坏消防用品情节较轻。
- 8) 物流车、零件摆放在插车通道上。
- 9) 随意倒水或扔脏物。
- 10) 钉子等尖锐物体随意乱扔。
- 11) 未经允许打开机床、自动门、照明灯、通风机等开关，或者上述开关忘记关闭。
- 12) 在禁止吸烟区域吸烟。
- 13) 不按规定着装。

上述罚款作为劳动安全经费的一部分。

B：对下列行为按公司处理决定执行：

- 1) 无视公司安全规定，工作时间打闹；
- 2) 工作时间饮酒；
- 3) 驾驶叉车出现事故，后果严重。
- 4) 严重损坏消防用品。
- 5) 对他人工伤负有直接责任者。

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1,General

- 1) In order to reduce the danger to the lowest level, and prevent danger in the work place and during work time, we release this **SAFETY HANDBOOK!**
- 2) The handbook is according to <<**OSHA HEALTH & SAFETY TRAINING MANUAL**>>, we provide safe working conditions, instruct you in the safe way to perform your work, and make available to you equipment to protect yourself from injury.
- 3) For your health and your family happiness, please refer to this Handbook, and set the example!
- 4) The leader's responsibility is teaching and management, and doing well according to it first!
- 5) Your responsibility is to follow safety instructions from your supervisor and report safety suggestions to the leader.

2, The Cause for Accident and Prevention Method

Accidents don't just happen. There is always a cause for every accident. Most accident is caused by unsafe acts. Some are caused by unsafe conditions.

1) Actions which often lead to accidents include:

- ✧ Neglect in the use of PPE.
- ✧ Failure to dress safety.
- ✧ Wrong working action.
- ✧ Horseplay and not all attention when working.

2) Conditions

- ✧ Poor housekeeping
- ✧ Hazardous arrangement of material
- ✧ Something wrong with the safety guard equipment
- ✧ Too much noise and improper lighting

3) Accidents can be prevented by

- ✧ Safe conduct
- ✧ Safe methods
- ✧ Elimination of hazards
- ✧ Alertness and attention

Keep in mind:

No set of safety rules can possibly cover all circumstances. Further, some rules may seem to conflict with Federal, State and Local Laws, Labor Agreement, or instruction, don't disobey or modify the Rule: **ASK YOUR MANAGER.**

- ◆ If you don't know the safe way to do a job, ask your foreman and pay attention to what he says.
- ◆ Keep alert, know what you would do in case of emergency. Keep in mind the location of fire extinguishers, telephones and first aid kits or station.
- ◆ No drinking during working-time, if happened, he/she will be fired.
- ◆ Report any unsafe conditions to your foreman or Field Safety Supervisor.
- ◆ Always take an interest in the new, inexperienced employee. Call attention to dangerous practices, and help him learn the safe way of doing his work.
- ◆ Notify all persons who might be endangered by your work.

When working with another person, let him know before you drop a load or do anything that might injure him. Don't throw anything from a height until you have checked to make sure that no one is below you.

- ◆ Horseplay is forbidden. Immediate punishment is the penalty.
 - ◆ Observe and obey all warning signs.
 - ◆ Use equipment for what it was designed for.
 - ◆ Wear clothes suited for the job—no dangling or loose clothing or jewelry around moving machinery.
 - ◆ Learn to lift the right way. Bend knees, keep back erect, and get help for heavy loads.
 - ◆ Do not run – watch your step—keep firm footing and proper balance at all times.
-
- ✧ Lack of knowledge of safe practices will not be accepted as an excuse for their violation.
 - ✧ Effective management of worker safety and health protection is a decisive factor in reducing the extent and severity of work-related injuries and illnesses and related costs.
 - ✧ Employers are advised and encouraged to institute and maintain in their establishments a program that provides adequate systematic policies, procedures, and practices that protect their employees from, and allow them to recognize, job-related safety and health hazards.
 - ✧ The most important part of safety is **you**. It is up to you abide by the safety rules – they are made for your protection. You are expected to report immediately any personal injury, however minor, and all dangerous conditions and practices to your supervisor.

3, FIRE PREVENTION

1) Most of what you need to know about fire is:

- ◆ 3 factors to fire: combustibility-material、 kindling and air (Oxygen)
- ◆ Types of fire
 - ◆ The most common kind of fire. Involving ordinary materials such as wood, paper, rubber and plastics.
 - ◆ Flammable liquids, gases and greases make up this class. They are harder to fight and require a special kind of extinguisher.
 - ◆ Combustible metals including magnesium, titanium, zirconium and sodium.
 - ◆ Fire caused by electric circuit , must cut off the power first then put out a fire to save life and property。 .

Good housekeeping as prevention

Good work practices as prevention.

Good habit as prevention.

2) Fire protection and prevention

- You should be familiar with the location of fire fighting equipment on the job, particularly in the area where you are working.
- In case of fire, do not get excited. First consideration must be given to the safety of all personnel. Then sound the alarm. After everyone is safe is soon enough to give attention to saving property.
- Do not tamper with fire fighting equipment.
- Keep the area around fire extinguishers and other fire equipment clear of material and tools.
- Provide trash cans for throwing debris in. Keeping the area cleaning up helps to reduce the possibility of fire.
- Use safety cans for transporting fuel from storage tank to gas tank or for temporary storage.
- Do not smoke in gas storage areas.
- Take precautions when burning or welding.
- Ground storage tank when refueling vehicle.
- Keep work areas clean and store clutter-free, a neat and orderly

job reduces fire hazards.

- High explosives or highly flammable liquids shall not be used to clean parts or tools.
- Containers used for storing flammable liquids shall be marked as to their contents.
- No vehicle or engine shall be refueled while the engine is running.
- There shall be no open fires on the jobsite.
- When using portable heaters make certain that all combustible material is back away from the heater at a safe distance.
- Store, handle, and pile all materials in regard to their fire characteristics.
- Know what chemicals you work with-you might have to advise fire fighters on the scene of chemical fire concerning the type of hazardous substances involved. (MSDS) CONTROL

3) Exit

- Every building designed for human occupancy shall be provided with exits sufficient to permit the prompt escape of occupants in case of emergency.
- In hazardous areas, or where employees may be endangered by the blocking of any single means of egress due to fire or smoke, there shall be at least two means of egress remote from each other.
- Exits and the way of approach and travel from exits shall be maintained so that they are unobstructed and are accessible at all times.
- All exits shall discharge directly to the street or other open space that gives safe access to a public way.
- Exit doors serving more than 50 people, or at high hazard areas, shall swing in the direction of exit travel.
- Readily visible, suitably illuminated exit signs shall mark exits. Exit signs shall be distinctive in color and provide contrast with surroundings. The word “**EXIT**” shall be of plainly legible letters, not less than 6 inches high.
- Any door, passage, or stairway which is neither an exit nor a way of exit access, and which is so located or arranged as to be likely to be mistaken for an exit, shall be identified by a sign reading “ **NOT AN EXIT**” or similar designation.

4, HOUSEKEEPING

1) Place

- All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.
- A neat and orderly job improves general working conditions, reduces the fire hazards and helps to reduce accidents – do your part.
- Keep material piles neatly, and stacked properly. Do it right the first time.
- Nails in lumber shall always be removed or bent over, nails around keg tops shall be removed as soon as the keg is opened.

2) Trash

- Finish working should clean the working spot and put the scraps in the waste containers.
- Put your used drinking cups in the trash containers provided.
- All sweeping, solid or liquid wasters, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary to maintain good antiquary condition.
- No smoking-end at will.

3) Floor

- All floor surfaces shall be keep clean dry, and free from protruding nails, splinters, loose boards, holes, or projections.
- Where wet processes are used, drainage shall be maintained, and false floors, platforms, mats, or other dry standing places shall be provided where practicable.

5, The control of hazardous energy (Lockout / Tagout)

1) Key definitions

- Lockout is the of process of blocking the flow of energy from a power source to a piece of equipment, and keeping it blocked out. Lockout is accomplished by installing a lockout device to the power source so that equipment powered by that source cannot be operated.
- Tagout is accomplished by placing a tag on the power source. The tag as a warning not to restore energy it is not a physical restraint.

2) The standard requires the Energy Power Dept.

- Develop a written energy control program that clearly explains all procedures for lockout/tagout.
- Provide training to those workers affected by these procedures. This training must include:
 - How to perform a shutdown.
 - How to isolate equipment.
 - How to apply and remove lockout devices.
 - How to safely release stored energy to reach zero state.

For employees will actually perform lockout/tagout procedures.

Training for these individuals must include:

- ✧ Explanation of hazardous energy sources.
- ✧ Identification of energy sources in your workplace.
- ✧ Perform the lockout, open, off.

3) Review of company specific item

- Electrical
- Mechanical (pulleys, wheels, gears)
- Pneumatic (arms, rams, presses)
- Fluid and Gases
- Hydraulic (arms, rams, presses)
- Thermal (steam or hot water)
- Water under pressure
- Gravity
- Natural gas

4) The problems of the accidental release of energy:

- Accidental start-ups
- Electric shock
- Disabling injuries and death

5) The lockout/tagout procedure

- How to perform a shutdown;
- How to isolate equipment;
- How to apply and remove lockout device;
- How to safely release stored energy to assure that a zero energy state exists.

6) How to perform a shutdown and isolate equipment

- Notify all affected employees that a lockout procedure is about to start.
- Locate all energy sources that power the piece of equipment you'll be servicing, including hidden energy sources.
- Note that some machines have more than one source of power, so you must make sure you know the machine and all power sources involved.

7) Locking and opening lockout devices

- Shut down the machine by following the normal method for shutdown
- Turn off the energy at main power sources
- Turn the machine switch back on to confirm that the power source has been deactivated
- Attempt to restart the machine to guarantee that the power is shut off, then return the switch to the off position
- Using your own lock, lock out all energy sources involved
- With your lock in place, test the disconnect to make sure it can't be turned on.
- If several people are needed to work on a piece of equipment, each one must apply their own lock. This prevents any accidental start-ups while another employee may still be working on the machinery.
- When all energy sources are locked, inform others of the lockout situation. One way to do this is by applying a tag to the power source.
- Equipment must be at "zero energy state" before servicing or maintenance work can begin to get to this state;
- Drain all valve, bleed off air from a system, eliminate stored hydraulic pressure, or use any method to release energy that is detailed in your company procedure.
- Test machine to assure that all energy was disconnected or released
- After servicing is finished remove all tools from area and replace all machine guards.
- Remove your tag and lock
- Reconnect all sources of energy
- Restart the equipment

6, Machine and Tools

1) Compressed Gases

- Cylinders shall not be accepted unless approved by relevant commission.
- Cylinders shall be carried or rolled on bottom end and never dragged, dropped, or moved by electric magnets and rope slings, unless a specially designed cradle is provided in the sling.
- Cylinders shall always be considered as full and handled with corresponding care.
- Cylinders shall be kept in well-ventilated places and away from any sources of excess heat. When placed inside buildings, they shall be kept away from highly combustible materials, such as oil and excelsior, and away from stoves, radiators, and furnaces.
- Cylinders shall be stored securely by positive methods and in a definitely assigned place, away from elevator, gangways, and other places where they are likely to be knocked over or damaged by passing or falling objects.
- Cylinders of oxygen shall not be stored in close proximity to cylinders of acetylene and other compressed gases inside buildings. Unless well separated, there shall be a fire-resisting partition between the oxygen cylinders and other compressed-gas cylinders.
- Where cylinders are stored in the open, they shall be protected from accumulations of ice and snow and from the continuous direct rays of the sun in locations where high temperatures prevail.

2) Fork lift

A: Driving fork lift

- Only a trained and authorized operator should drive a forklift.
- Only the assigned driver should operate a forklift.
- No using the forklift, which needs repair, in any way unsafe, the forklift shall be taken out of service until it has been restored to safe operating condition.
- High lift rider truck shall be equipped with a substantial overhead guard unless operating conditions do not permit.
- Fork trucks shall be equipped with a vertical load backrest extension when the type of load presents a hazard to operator.
- The brakes of highway truck shall be set and wheel chocks placed under the rear wheels to prevent the truck from rolling while they are boarded with forklift trucks.

B: Safe Fork Lift Driving Rules

- Keep to the right
- Obey speed limits
- Keep three vehicle lengths away from other vehicles
- Slow down at all intersections
- The pedestrian always has the right of way
- No horse play is allowed
- No riders are allowed, not on the forks, not on the seat, not on the back
- Always keep arms and legs inside the vehicle
- Face the direction of travel
- Know the position of your forks at all times
- Be aware of overhead clearances, if working in solid storeroom must wear safety helmet.
- Be alert for oil and grease spots
- Be careful of changing light conditions
- No towing or pushing is allowed
- Beware of edges on loading docks
- Always check the wheels of a truck being loaded or unloaded.
- Stop completely before raising or lowering a load
- Make sure forks extend completely into a pallet
- Never travel with a load raised high
- Make travel with a load is balanced and secure
- Do not move loads on broken pallets, loads beyond the known capacity of the fork lift or loads that are unbalanced

C: Forklift inspection and maintenance

Since companies have different types of lift devices made by a variety of manufacturers, the hands-on pre-operational inspection is very important.

Among the points to be made:

- Procedures for operators to report repairs
- Verification of repairs
- The obligation to refuse to work with unsafe equipment
- Mounting and dismounting procedures. Many accidents are caused by operators slipping or jumping from their units;
- Refueling stops are especially critical.

D: A model safety check starts with this walk-around inspection

- Check fork pins and stops to make sure they are in place
- Check all cowling and body parts
- Check wheels and tires
- Check for any broken or loosened parts
- Check full level, crankcase oil level, radiator water level (if

applicable), engine air cleaner, fan belt, hydraulic fluid level, battery water and other points required by the particular model

E: the operator should then get in the seat to check

- Brakes
- Oil pressure gauge, water temperature gauge, and ammeter. These will also vary by model and fuel used

F: continue the inspection by starting the engine to check

- Steering. The wheel should turn correctly both ways to its stops, should feel loose and the pump should not squeal before reaching the stops;
- Operation of the hour meter, headlights, taillights, warning lights, and other lights.
- Clutch
- Hydraulic and other controls

G: traveling with loads

- Allow the operators to carry these loads to a drop point. Have them enter trailers and notice whether they check for problems before driving into it.
- If incline are part of your plant environment, have the operator travel up and down with a load before normal operation. Take the trainer to potential problem areas with heavy traffic and blind spots. Help them to get familiar with the areas they will be driving in.
- Make sure your operators are conscious of this factor with the type of equipment they are using. This is also a good time to emphasize the importance to stock damage caused by careless drivers.

3) Machine guarding

- Machine guarding shall be provided to protect employees in the machine area from hazards such as those created by point of operation, nip points, rotation parts, flying chips and sparks. The guard shall be such that it does not offer an accident hazard in itself.
- The point-of-operation guarding device shall be so designed as to prevent the operator from having any part of this body in the danger zone during the operation cycle.
- Special supplemental handtools for placing and removing material shall permit handing of material without the operator placing a hand in the danger zone.

4) Power tools

A: you have several duties when using power tools:

- Wear the right kind of personal protective equipment (PPE)
- Maintain the tools according to company procedures
- Use the safety features provided with each tool. This includes machine guards, two-handed switches, safety interlocks, etc.
- Use the tools correctly, matching the right tool to the job

B: Hazards from electrically power tools come from two sources:

- The “Input” such as the electricity, the blades or other turning parts
- The “Output” such as the piece being worked on, flying chips and sparks

C: some general safety rules to observe:

- Keep your work area clean;
- Keep tools sharp, well-oiled (or otherwise maintained) and stored in safe, dry place;
- Regularly inspect your tools. However, you must not service any tool that you are not qualified to maintain;
- Use tools with appropriate safety equipment, including grounded (three-prong) plugs, double insulation and functioning safety switches;
- Make sure machines guards are in place. Use safety glasses hearing protective and respirators as appropriate;
- Wear appropriate clothing and avoid jewelry;
- Carry a tool by its handle, keep all cords clean and free from kinks;
- Size the tool to the job. This includes matching all attachments and working parts of the tool to the job.

7, PERSONAL PROTECTION

1) Personal protection

- Welders' helpers shall wear flash goggles. Use safety goggles when grinding, using cutting torch, welding, sanding, using chisels, chipping slag, breaking rock, handling chemicals, etc.
- You should wear a pair of good work gloves suited to your type of work.
- Safety shoes are recommended for all employees.
- Safety belts shall be worn if practical on all jobs where is the danger of falling a distance of 1.5 meters, unless some other type of protection is provided.
- Must wear work clothes. No dangling or loose clothing during work time.
- Pointed tools shall never be carried in your pocket.
- Keep guards and protective devices on power equipment in place at all times. When guards are removed for repairs, replace in proper order before starting up.

2) Eye

A: suitable eye protection must be provided where machines or operations present the hazards of:

- Dusts, posers, fumes and mists (very small airborne particles)
- Flying objects but also liquids of any kind
- Glare such as from welding
- Radiation (this includes heat and light including a new hazard, lasers)
- Mechanical irritants
- A combination of these hazards

This applies to everyone—supervisors, management, visitors including management and staff.

B: Types of eye protection

Each type of eye protections is designed for a specific hazard.

Eye protection typical includes:

- Safety glasses
- Goggles
- Face shields

C: Fitting Glasses

- Fitting of goggles, safety glasses and shields should be by someone skilled in the procedure.
- Obviously, you should get your corrective eyewear from qualified

optical personnel

D: Inspection and Maintenance

- Eye protection won't do you much good if the lenses are so dirty you can't see well through them.
- Not only does continuous vision through dirty lenses cause eyestrain, it often becomes an excuse for not wearing eye protection.
- Obviously, the first choice to protect your eyes will always be the elimination of the hazard from the workplace.

3) Foot

A: foot hazards include:

- Sharp or heavy objects falling on your feet or toes
- Compression—the foot or toe is squeezed between two objects or rolled over
- Puncture—a sharp object, such as broken glass cuts through the sole
- Electricity—contact with power lines or other equipment sends shock through the shoes
- Slipping—contact with surface hazards such as water, oil or chemicals causes slippage and a fall
- Chemicals—chemicals or solvents corrode ordinary shoes and harm the foot
- Extreme heat or cold—insulation or ventilation may be the answer here
- Discomfort and infection from prolonged periods of wetness

B: Shoes Types

- As noted in your text, safety shoes come in a variety of types to meet specific hazards
- This level of choice should answer many of the excuses found in the text
- As we've all experienced that unique kind of tiredness and pain that comes from ill-fitting shoes or boots, it's just common sense to get shoes and boots fitted properly
- Foot protection won't help you much if the shoes or boot are worn out or are so uncomfortable that you leave them in the locker room or at home.

4) Hand

A: some of the most common sources of hazards are listed in the text:

- Machine injuries, including cuts, punctures, crushing and scrapes
- Extreme heat or cold

- Electrical shock or burns
- Skin irritation from chemicals or germs. Often called “contact dermatitis”.

B: The Demarcation of Wrong Protection:

Wearing or using the wrong kind of PPE may be worse than using no protection at all. At least, if you’re not protected in some way, you may be more aware of the danger and be more careful.

C: Types of Hand Protection:

- Gloves are the most common kind of hand protection. A special caution when using any kind of glove when working with or near machinery.
- Engineering controls are your best protection.

5) Prevention of slips trips and falls

A: the why and how of slips, trips, and falls

- Friction. The resistance between things, such as between your footwear and the walking surface.
- Momentum. Speed and size making the scientific measure of momentum. In terms of workplace, it means that large items moving at higher speeds will fall harder than the same item moving at a slower speed
- Gravity. Obviously, this is the force that pulls you to the ground when in a fall. The key point here is to keep your balance and your center of gravity such that you don’t fall

B: Let’s go through them

- Safe walking skills. If you must walk on wet surfaces, even if it’s only across the parking lot to come into work, take short steps with the feet pointed slightly outward
- Clean up spills right away
- Don’t let grease pile grease pile up on the shop floor or near machinery

C: Good work practices and procedures:

- Make sure you can see over the load you are carrying
- Make sure lighting is adequate
- Keep work areas free of clutter and litter
- Keep furniture out of walkways and other traffic areas
- Tape down extension cords keep them out of walkways
- Do not jump from any elevated surface, such as a truck, platform or elevator
- Report any of these problems, including loose carpeting, broken stairs or handrails
- A fall is the most extreme, occurring when you move off your

center of gravity too far

6) Ladders

- ✧ Use only “real” ladders. Don not pile up boxes, chairs or benches
- ✧ Inspect the ladder before use. Do not use one that has missing or broken rungs or other defects.
- ✧ Face the ladder when climbing and use both hands. Hoist materials and tools up to you
- ✧ Keep your center of balance near the ladder. Adjust the position of the ladder rather than overreaching.
- ✧ Use the “FOUR TO ONE” rule in setting up a ladder.
- ✧ One person at a time on a ladder
- ✧ Do not stand on the top step of a step ladder or the top rung of an extension ladder

7) By bus

- ✧ From home to bus stop comply with rules!
- ✧ Get on/off bus after the bus comes to a complete stop.
- ✧ Keep order when staffs record the attendance cards and get on or off the bus. No crowing or snatching seats.
- ✧ Pay attention to the other cars when you get off the bus after the bus stops.

Attach 1:

If accidents happened to the enterprise's staff and workers on the only way or time of his/her going to work and backing home, and the adjudicated by the traffic supervise department, if the accident's main responsibility is not the worker's, it will be seemed as injury; and if the accident's main responsibility is the worker's, it will not be seemed as injury.

Attach 2:

LVLB—Safety System of Rewards and Penalties

Reward:

Our company will choose the Safety Model at the last of every year and will reward him or her.

According to:

- ✧ Execute the Safety Rules completely and well;
- ✧ Give important improve advice to the Safety work.

Punishment:

A: if you did as the listed below, you will be fined 10 RMB every time, and the fire will be used to do the Safety work.

- ✧ If you are not a forklift driver, but you drive the forklift without permission.
- ✧ Drive the forklift too fast or horseplay.
- ✧ Drive unsafe forklift.
- ✧ Step on the hand forklift for sliding.
- ✧ Sliding the hand forklift randomly, and collide with other objects.
- ✧ Not to clear oil on the floor during or after refilling or removing the grease/oil in time.
- ✧ Move the fire-fighting equipment without permission.
- ✧ Material flow handcart、 parts are placed on the forklift way.
- ✧ Pour water or rubbish randomly.
- ✧ Throw nails or other sharpen objects randomly.
- ✧ Open the machine、 auto door、 light、 fan without permission , or forget to close it.
- ✧ Smoking a no smoking area.
- ✧ Not wearing the work clothes according to the safety rules.

B : If you did as the listed below you will be dealt with the company's decision:

- ✧ Horseplay during the work time;
- ✧ Drink during the work time;
- ✧ Accident happened on driving forklift and consequence is very serious;

- ◇ If the work damaged the Fire-fighting equipment seriously;
- ◇ The direct responsibility person to others' injury.

人力资源部经理：
HR MANAGER：

副总经理：
DGM：

总经理：
GM：
