



Kingdom of Saudi Arabia
Ministry of Interior
General Directorate of Civil Defense

Safety Conditions in Paint and Coatings Workshops and Their Shops

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Chapter 1

1st: **Definitions: The terms in this list mean:**

1. **Paints and coating** : All works in which paint and coating materials are used, whether in technical workshops, car paint workshops or workshops attached to factories that produce devices or equipment that needs to be decorated with paint, shops that sell paints and paint materials .
2. **Painting materials** : refers to the materials used in coloring, decoration and preventive works . The coating oils (materials used for painting) or that consist of different types of oils in addition to some alcohol or petroleum solvents (which give them the necessary fluidity) .
3. **Varnish** : It is a solution of some resin materials in one of the solvents (thinner), and in this case it is called an alcoholic varnish or in an oil to give luster and gloss to the paint and wooden furniture materials or to prevent and beautify the surfaces of various materials .
4. **Polishing paints**: These are coatings prepared from certain chemical compounds on which the materials are coated, so that the polishing layer forms a shiny .
5. **Cellulosic coatings** : These are industrial products prepared from cellulose acetate or nitrate with a type of solvent .
6. **Metal coating materials** : these are materials that have the characteristic of preventing and resisting metal rust .
7. **Flammable-resistant paints** : these are covering or toxin materials with chemical formulations that have the characteristic of delaying and resisting flammable substances .
8. **The Law** : Civil Defense Law issued by the Royal Decree No. 10 and dated 10/5/1406 H and all other relevant regulations .



- 9. Civil Defense Representative :** The authorized person or persons by the General Directorate of Civil Defense, or one of its centers to carry out inspection, forfeiture, and investigation of violations as per the rules and procedures specified in the relevant Regulation, to ensure the safety of the building, safety equipment, and tools, and to impose the penalty stipulated .
- 10. The Relevant Authority :** The Ministry of Interior, the General Directorate of Civil Defense, and other public authorities involved in the facility's license and activity .
- 11. The person responsible for safety :** according to Article 5 and 10 of the civil defense law – he is an from employee the of the institution responsible for all matters related to safety works , and he is owner of the site (private property) or the person in whose name the license is issued or its sub-user is responsible in all cases and his duties and responsibilities shall be determined in accordance of the regulations .
- 12. Specifications :**
- a. Saudi Standards, issued by the Saudi Standards, Metrology, and Quality Organization, SASO .
 - b. International Standards : Foreign specifications adopted by the Saudi Standards, Metrology, and Quality Organization, the official documents shall be submitted the material or machine all provide safety conditions and requirements , and be adopted by SASO .

Chapter 2

General Terms and Conditions

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The person responsible for safety in the facility shall assign a register called
(safety and firefighting record) according to the application form prepared by Civil Defense . All pages are stamped with the seal of the relevant Civil Defense Center. All the periodic tests and inspections,

and maintenance works of the building and the building's electrical and mechanical installations, plus all safety means, control, and firefighting, are recorded in this register.

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The person in charge of the facility is directly responsible for making monthly checks and periodic tests for the center and its equipment, and all safety, firefighting , monitoring and Alarm equipment for the center, and Fix any malfunction or defect immediately.

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All workers must be trained in safety and ambulance tasks in one of the specialized national institutes that are approved by the General Directorate of Civil Defense or through an agreement with Civil Defense in regions where there are no such institutes, to conduct training courses for this purpose, provided that the training requesting party bears the costs of such or its share of the course costs based on the cost of one trainee , the proof for the required training must be attached.

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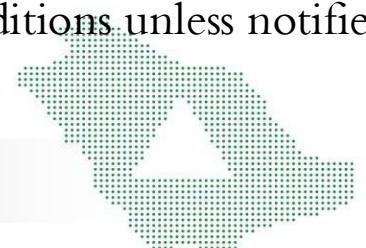
The person responsible for safety in the facility is obligated to set up signboards according to the civil defense design for (no smoking) , limit any source of fire, guide the exits and escape plans and safety instructions.

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In accordance with article 20 of the Civil Defense law, a establishment may not be authorized . Subject to these Regulations, to be expanded, to be restored or to be updated before the license applicant implements the conditions stipulated in the regulations, and to obtain the approval of the Civil Defense and other relevant authorities.

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In the case of sale or rental of workshops, the previous owner (license holder) is obliged to implement all protective conditions unless notified in advance to the Civil Defense .



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Violations of these regulations are seized and investigated in accordance with the regulations and instructions issued by the Civil Defense in this regard.

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This regulation applies to workshops in various paints, paint places attached to factories and paint shops.

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This regulation relates to Civil Defense conditions and requirements only, without being subject to the rest of the conditions and requirements that fall within the competence of other relevant authorities.

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The establishment may not be authorized until the applicant has submitted a technical study by an office accredited by the General Directorate of Civil Defense . This office prepared the study responsible to the civil defense and other relevant authorities for accuracy, and for monitoring the implementation of the study . Also , the office commit to submit a final certificate confirming that the facility accordance the instructions and requirements of these regulations. It also be liable with the owner of the printing press and the executing contractor, for any mistakes , failure or negligence.

Chapter 3

Safety and Prevention Requirements

1st Safety requirements for independent paint workshops or in factories :

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requirements related to the location

The workshop shall be located in accordance with the scheme attached to the license, with compliance of the specific areas specified by relevant authorities .

It is not permissible to operate the workshop other than the purpose for which it is intended.



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building requirements

1. The buildings structure are designed from fire-resistant materials (type 1).The use of any wooden materials are attended
2. The floor must have a relative slope to allow fluid flow in emergencies , so that it ends in a hole.
3. The doors and windows must be metal materials and window glass should be reinforced and heat reflective type.
4. The workshop should not be above any housing for people and the roof should be fireproof.
5. The workshop must have at least two doors equipped with an automatic shutdown that open to the outside and do not contain any locking device.

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escape routes

Doors must be provided at the workshop for entrance and exit , and all doors must lead to open roads to implement the evacuation plan in emergencies.

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industrial safety

1. The workshop should have a place for spray work , and should provide a moving vent with a flexible tube that reaches out and is placed under the objects being sprayed.
2. The spraying workshop is not permitted underground.
3. The places adjacent to the workshop must have an independent corridor.
4. If the factory has a thermal drying section , it should be located in a place separate from the spray workshop . If they are adjacent, they must be separated by a metal door, after the approval of the Ministry of Industry and The General Authority of Meteorology and Environmental Protection.



Ventilation

1. If the spraying works take place in a room, it must be completely fireresistant materials, and it must be open during work while ensuring both mechanical and natural ventilation in this room.
2. the workshop must have adequate automatic ventilation be to avoid the fumes spread to the factory and to expel the fumes to the outside by high chimney, to avoid disturbing the neighboring places. Moreover, adequate ventilation is required for the rest of the factory.
3. All suction and thrust extensions must be of non-combustible materials, and if these extensions are made through other places, they must be fire-resistant for at least 1 hour . And if these places are equipped to accommodate people, those places must be fire-resistant for at least 2 hours.
4. All fumes extraction installations must be of metal and connected to a metal wire that connects to a metal plate, preferably placed in a wet ground (as a ground outlet against static electricity).
5. The spraying site is equipped with an external circuit breaker that can be easily accessed in order to stop the ventilation process in fire.
6. The fan power should be sufficient to avoid the possibility of an explosive atmosphere in the spraying section or the drying section.
7. Release any fumes such as fog, dust, toxic or corrosive gases is prohibited that may harm the neighborhood , cause harm to public health , cause pollution to the environment , or harm agricultural production.
8. The workers must have protective masks and eye glasses (goggles) .
9. The spraying section should be equipped with a water curtain in order to capture paint fumes.
10. All containers containing petroleum products must be closed with a lid, and labeled with stickers notifying this.



11. The Workers must be protected from diseases by following the methods :

- Undergo a periodic medical examination in accordance with the instructions of the health authorities .
- Wash and replace work clothes after work completion.
- Not eating and drinking in the workplace.
- Not smoking in the workplace . o Not to wear loose clothes.
- Not clean hands by benzene or a solution containing that material.

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preventive instructions

1. The cleaning of floors and extensions is carried out in a way that prevents fire , and this cleaning is done to prevents any sparks from occurring, and the use of flames for the purpose of cleaning is prohibited.
2. The cars to be repainted must be empty fuel tanks .
3. The use of liquids inside the workshop are forbidden except for paint and cleaners that are only authorized for use.
4. The rags contaminated with paints, oils and varnishes are forbidden. They must be collected with the rest of the waste in a sealed metal box outside the factory and disposed of in a safe way.
5. All measures shall be taken in accidents or cracked utensils and hazardous materials pouring out and running to sewers or water sources . Civil defense and other relevant authorities must be notified immediately.
6. Not keep quantities of varnishes or paints that exceed the amount for daily work, and a maximum of 25 liters.
7. If supplies of paints and varnish in the factory or workshop, it must be placed in a metal cupboard in an external room isolated at a distance so that it does not help the spread of the fire.

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Electrical installations



Electrical installations

1. Electrical equipment and appliances (heaters, stoves, ovens, refrigerators, air conditioners, etc.) must be constructed in a way that does not harm health, threaten public safety, or disturb the neighborhood due to noise or vibration, and in accordance with the instructions of the Ministry of Industry.
2. All electrical installations and wires must be of suitable types and diameters and must be well isolated and protected . Also be installed by a qualified person, and any modification must not harm the general specifications.
3. The periodic inspection of electrical and mechanical ventilation devices should be carried out by a specialized, technical office.
4. The lamps shall be the closed type within a glass cover or other reliable and equivalent way.
5. Pendant lamps and portable lamps are prohibited.
6. The circuit breakers, fuses, and motors must not cause sparks, and be maintained and monitored continuously in accordance with SASO.
7. The use of temporary electrical connections is prohibited.
8. All metal parts of the varnish, such as the sprayers, must be properly connected to a ground outlet . As well as all electrical connections.

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Fire protection

1. It is prohibited to light fire or flame inside a factory, workshop or smoking , and refer to it as stickers in and out of the workplace .
2. Dilute mercury-based varnishes are not allowed to be used in the workshop.
3. Workers must be trained in the use of fire extinguishers , training in safety , firefighting , and evacuation periodically or at regular periods.
4. For further information, the relevant authority must be consulted before proceeding to expand the building or increase its production activity.

5. Smoking is prohibited inside the workshop, and most put stickers in the entrances and throughout the workshop in both Arabic and English in addition to any other language .
6. The manhole shall be free from traces of gasoline, oils, or cleaning rags.
7. Paint cans and solutions are placed in metal cabinets with ventilation holes in a place out of the reach of non-professionals.

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Firefighting equipment

1. Fire extinguishers with a capacity of not less than 12 kg of dry chemical powder, carbon dioxide gas , and foam , so for each (40 m²) of the place has an extinguisher, and the number of extinguishers is estimated according to the size of the workshop and its capacity for cars after consulting Civil Defense representative . Taking into consideration that the number of extinguishers should not be less than 2 chemical powder extinguishers 12 kg, carbon dioxide extinguisher 121 kg, and foam extinguishers with a capacity of 10 kg per workshop, regardless of its space.
2. The workshop shall be equipped with a number of fire hose reels near the entrances, so that it covers the workshop with a number of clean sand buckets equal to the number of extinguishers . The quantity and pressure are determined according to the scheme with Civil Defense approval.

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Automatic alarm and firefighting systems

1. The building should be equipped with an automatic alarm system as well as an automatic extinguishing system using automatic water sprinklers .
2. The alarm and extinguishing systems are selected by a specialized office or company, provided that the design and installation are in accordance with the technical specifications approved by the SASO.



3. Providing a telephone in the building, especially in the control room , to report in the event of a danger, along with providing a board on which the numbers of the Civil Defense , security patrols, and various services required by the work in the building.

2nd Safety conditions for shops selling paints and coatings:

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The site

1. The location must be in accordance with the licensing requirements of the Ministry of Municipal and Rural Affairs and other relevant authorities.
2. The building structure is designed from fire-resistant materials.
3. The workshop should not contain any wooden partitions.
4. The floor should be sloping and ending in a collection hole if paint spillage.
5. It is only permissible in selling paints.
6. All doors and windows must be of metal.
7. Safety instructions, usage instructions and first aid instructions must be written on the packages.

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Electrical installations , wires and lighting

1. All electrical installations , wires and lighting must be designed and installed per SASO and by a specialized technical authority.
2. All electrical installations and wires must be of suitable types and diameters and must be well isolated and protected.
3. The periodic inspection of electrical and mechanical ventilation devices should be carried out by a specialized, technical office.
4. Pendant lamps and portable lamps are prohibited . In addition, the light bulbs shall be prevent flame and resist explosion , and installed inside protective cases.



Escape routs

Doors must be provided at the workshop for entrance and exit , and all doors must lead to open roads to implement the evacuation plan in emergencies.

Ventilation

Natural and artificial ventilation must be provided in the shop.

Storage

1. The paints and coatings containers on top of anti-flammable and anticorrosion shelves.
2. The shelves for paints should be isolated from other materials and be placed in an independent place.
3. Classifying the types of materials to avoid the possibility of interaction between them.
4. The quantities authorized in the shop must be comply with what is stated in the license.

Firefighting equipment

1. Fire extinguishers with a capacity of not less than 12 kg of dry chemical powder, carbon dioxide gas , and foam , so for each (40 m²) of the place has an extinguisher, and the number of extinguishers is estimated according to the size of the workshop and its capacity for cars after consulting Civil Defense representative . Taking into consideration that the number of extinguishers should not be less than 2 chemical powder extinguishers 12 kg, carbon dioxide extinguisher 121 kg, and foam extinguishers with a capacity of 10 kg per workshop, regardless of its space.
2. The workshop shall be equipped with clean sand buckets equal to the number of extinguishers.
3. Large shops that contain unlimited quantities of paints must provide water hoses, after consulting Civil Defense.



4. The workers in the shop must be trained in safety and the use of extinguishers and fire equipment.

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Precautions

1. Fire or flame is prohibited or the use of heaters . Smoking is also prohibited inside the shop.
2. Cleaning is necessary and dispose of waste in their areas on a daily basis.
3. Shop activity is limited to sales and any other activity (such as mixing, composting and using solvents) is prohibited . It may result in risks to the shop and its neighbors or workers and customers.
4. Turn off the power from the store before close the shop.

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Safety instructions when doing paint work in buildings

The contractor must take the following preventive safety precautions :-

1. Provide workers with protective clothing and equipment (workwear, goggles , masks , helmets , gloves , shoes , etc..) and they must wear and use these tools
2. Raise awareness among workers involved in such work about the dangers of the paint materials used and what to do in risk situation .
-3A suitable place for the preservation of paint containers
3. Implement the instructions for safe use written on packages of paint materials.
4. Provide fire extinguishers and sand in the workplace , and train workers to use them in emergency.

