CHEMICAL CONTROLS

OXIDISING AGENTS

GOOD PRACTICE GUIDANCE

Textile Services Association

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OXIDISING AGENTS

INTRODUCTION

The use of oxidising agents is common in laundries. There are several risks associated with the use of oxidising agents from a fire perspective:

1. By its nature, an oxidising agent can produce oxygen which can make the surrounding areas “oxygen-enriched”, potentially creating a more combustible atmosphere.
2. Potential of an exothermic reaction (creating heat) when coming into direct contact with organic materials.

In addition, it is common for oxidising agents to be delivered to a site in an Intermediate Bulk Container (IBC’s), which can offer further risks for the ongoing management on a site i.e. changing lances. There are two main principles to be considered for oxidising agents:

1. Manage the storage of oxidising agents to minimise any potential risks, from the delivery process of containers through to the collection of the containers.
2. Be prepared for any emergency situation, including chemical reaction issues and spillage.

KEY CONTROLS

The following are some key controls which should be considered and adopted:

1. All delivery and collection activities should be detailed on an appropriate “safe system of work”, and all employees involved in the process should be trained and competent.
2. All oxidising agent containers should be stored in a ventilated, safe and secure area. This area should ensure that the oxidising agent containers are protected from direct sunlight and heat.
3. If this storage area is an external location, the containers must be protected from any unplanned contact, particularly from commercial vehicles and forklift trucks, if they operate in the same area.

4. An appropriate spillage kit and procedures should be made available in the immediate vicinity of the delivery point, storage area for the bulk containers and operational areas; these should only be used by trained/competent individuals.
5. In a spillage event, no organic material should be used as an absorbent material. For example, soiled/ragged linen, sawdust, and paper, as these materials can cause an exothermic reaction with the absorbent material during the disposal process. Only use a non-organic material such as sand. Care is needed to ensure that any soiled absorbent materials are disposed of appropriately.
6. Any oxidising agent container should be sealed with an appropriate “venting” cap allowing any gas build-up to be released from the container.
7. This “venting” cap should be used even on empty containers of any oxidising agent to prevent any organic material, such as leaves, paper, debris, etc., from entering the container.
8. A regular visual inspection should be completed on the oxidising agent containers for any irregularities in the shape of the containers.
9. An appropriate stock rotation programme should be in place for oxidising agent containers.
10. Delivery lances, used to dispense the oxidising agent in the production process, should be appropriately labelled to ensure the lance cannot come in contact with any other chemical.
11. No textile articles should be used to control chemical spillage or leaks from delivery lances.
12. No oxidising agent containers should be used for storing other chemicals in, and vice versa, no other chemical container should be used to store oxidising agents.
13. The substance material safety data sheet should be stored in the direct vicinity of all chemical storage and operational use areas.
14. No oxidising agent should be allowed to be accidentally mixed with any other substance under any circumstances.

15. Storage containers should be labelled correctly.
16. As per the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR), employers must:
    a. Find out what dangerous substances are in their workplace and what the risks are
    b. Put control measures in place to either remove those risks or, where this is not possible, control them
    c. Put controls in place to reduce the effects of any incidents involving dangerous substances
    d. Prepare plans and procedures to deal with accidents, incidents and emergencies involving dangerous substances
    e. Make sure employees are properly informed about and trained to control or deal with the risks from the dangerous substances
    f. Identify and classify areas of the workplace where explosive atmospheres may occur and avoid ignition sources (from unprotected equipment, for example) in those areas

    Reference link 1:https://www.hse.gov.uk/pubns/priced/l138.pdf

    Reference link 2: https://www.hse.gov.uk/pubns/indg370.pdf
17. According to the Control of Substances Hazardous to Health Regulations 2002, employers need to take into account the harmful properties of any proposed replacement substance. However, the harmful properties of many potential replacement substances may not all be known. In considering potential substitutes, employers should be aware of the responsibilities they have under other regulations, e.g. DSEAR. For example, an employer's choice of a replacement substance with lower toxicity but higher flammability might increase the overall risk if the process has an intrinsic fire risk.

    Reference link 3: https://www.hse.gov.uk/pubns/priced/l5.pdf
18. The exact location of the oxidisers should be written on the fire plan.

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