

The COSHH principles

Jo Russell considers some key components when collating Control of Substances Hazardous to Health files in dental practices

Aim

To appreciate what the HSE are looking for using the Act and regulations associated with COSHH

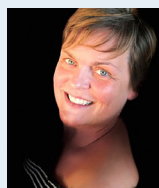
Objectives

- Look at the legislation for COSHH
- Appreciate what we need to evaluate and assess
- Learn what the HSE see as competency
- Consider the items that require full assessments

GDC development outcomes B and C



This article is intended to guide dental practices in the safe use and evaluation of everyday substances that may be hazardous to health. It will show the legislation that we follow in order to risk assess these substances and work activities. It is not intended to replace face-to-face training but will certainly offer readers some rationale when collating their Control of Substances Hazardous to Health (COSHH) files in dental practices.



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The Legislation

Section 2 (b) of Health and Safety at Work etc Act 1974 (HASAWA) (the Act) places a duty of care on the business owner to have:

*'Arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances'*¹

The responsibility of the business owner extends to anyone on their premises, not just employees, so this includes employed staff, self-employed, contractors (window cleaner, autoclave engineer, etc), visitors (the patient's family members, reps, delivery people etc), agency workers and so on.

In essence, the Act tells employers that those on the premises must be kept safe, with the absence of risks, when handling substances. However, it is The Management Regulations that instruct employers to *carry out* risk assessments² and where there are five or more employees, this must be written down. I personally feel it is good practice to record them anyway, regardless of the number of staff.

What is COSHH?

COSHH was first introduced in 1988, (reviewed in 1992 and 2002) to help instruct

business owners how to assess the risk to health any of the substances that may be used or produced in connection with work activities. These regulations were then most recently updated in 2002.

What needs a risk assessment?

There has often been the misconception that practices must carry out a full COSHH risk assessment on ALL materials with a hazard warning label on. However, this is not the case and may, in fact, be detrimental to highlighting the severity of some materials in use. When needed, we want to be able to see at a glance the first aid measures or emergency procedures for the substance rather than flicking through page after page of a COSHH file.

The COSHH regulations of 2002 (as amended) Regulation 2 (10) says that *'Employers should regard a substance as hazardous to health if it is hazardous in the form in which it may occur in the work activity. A substance hazardous to health need not be just a chemical compound, it can also include mixtures of compounds, micro-organisms or natural materials, such as flour, stone or wood dust.'*³

This means we must include microbiological organisms, such as biological aerosol caused by the Cavitron, high speed, three in one etc and also an assessment for

Date	Product name	Hazardous substance it contains	What is the work activity?	Is it hazardous in the work activity?	Does it require further assessment?
3.1.18	Acid etch	Orthophosphoric acid	Placed on a tooth's enamel to roughen it prior to bonding and placing a filling	Yes, although PPE is worn, during the washing off phase, acid can splash onto the skin	Yes – see COSHH folder
29.1.18	Alkazyme	Carbonate of sodium	Used as a disinfectant	No, as PPE is worn	No
17.1.18	Apex handpiece oil	Aerosol cannister	Oiling hand pieces prior to sterilisation	No, as full PPE is worn	No
3.1.18	Bond	Methyl methacrylate	After etching the tooth with acid, bond is placed to adhere the composite to the cavity	Yes, it is an inhalation risk	Yes – see COSHH folder
17.1.18	Dettol	Alcohol	Floor disinfectant	Not to skin as gloves are worn but could be to eyes. However, it is used in a bucket so not sprayed or used near eyes	No
17.1.18	MD555	Citric Acid Monohydrate Phosphoric Acid	Suction cleaner daily	Yes, severe eye irritation, although PPE should be worn it contains phosphoric acid	Yes, due to acid content – see COSHH folder
17.1.18	Steragel	Alcohol	Used for disinfecting hands	Yes, it can cause sensitivity so needs to be assessed for health surveillance	Yes due to sensitivity – see COSHH folder

Table 1.

the control of legionella proliferation.

Also be aware of products that don't necessarily have a hazard warning but still need a risk assessment label, such as legionella, latex gloves and microorganisms.

Considerations

Think about the work activity or the task and how might someone be harmed by this substance? Can the substance be replaced with something less harmful? What would the route of entry be e.g. inhaled, inoculation, get on the skin, go in the eyes? Remember at all times the use of Personal Protective Equipment (PPE) and the benefit of vaccinations. These are the last lines of defence, once all other control measures have been exhausted. By considering the work activity, we may take a product that has a hazard warning label on. However, when we consider the way in which we use it, it is not harmful per se. For example, think about Kalzinol – it has a hazard warning label being an irritant and coming under the label of 'Less Severe Hazards'. Think carefully about

the way in which it is used:

The eugenol comes in a small 15ml bottle with a stopper in the top to prevent the liquid from pouring out. It dispenses drops slowly (so little, if any, risk of spillages here) and we then mix maybe two drops of liquid with the powder. All the time we are mixing this, we are wearing PPE because we will always be in the throes of treating a patient. Therefore, there is no opportunity for it to come into contact with our skin and display its irritant properties. The final destination for this mixture is in the patient's mouth. With all of this in mind, it is therefore not that hazardous, is it?

Competency

Who is deemed to be competent in the practice to evaluate what may pose a risk and what doesn't?

According to the HSE (Health and Safety Executive), competency is deemed by five factors⁴:

- Knowledge
- Attitude/Ability

- Training
- Experience.

It is also important that employers know the limitations of the ability/knowledge of whom they choose to carry out these risk assessments on their behalf. I feel at this point it tends to be pretty obvious that the task of health and safety lies, in the main, with the practice manager or the senior dental nurse.

Evaluation

Experience is absolutely vital when it comes to evaluating the potential harm posed by substances. Just take the scenario above regarding the Kalzinol, you would need to have a clinical background to evaluate this substance effectively. Whoever is doing the risk assessment needs to understand its use, the process/activity, the storage and the control measures that need to be or are implemented. This, of course, is not done simply by experience/memory but also with the use of the Material Safety Data Sheet (MSDS). Each substance with a hazard ☞

Warning label (diagram 1) will have a MSDS. This is a legal requirement and can be anything from 1 to 14 pages long, containing 16 sections.

These sections (amongst others) include:

- Hazardous substance identification (pictogram, see diagram 1)
- Ingredients
- Storage instructions
- Disposal instructions
- Fire fighting measures

First aid measures:

- What happens if exposed via inhalation, skin contact and ingestion?
- What are the first aid measures if exposed via inhalation, skin contact, ingestion?

And so on.

Each substance's MSDS⁵ will be available on line or from your supplier – please ensure it is the most up-to-date safety sheet, as regulators/inspectors look at these. There is an example in the bibliography below of the Kalzinol MSDS⁵, so, if this is not particularly hazardous, why is there an MSDS I hear you ask? That is because, in a factory environment, this substance is manufactured in large quantities – far larger than we will ever see or use, so it is a legal requirement to safeguard those employees in factories too.

To that end, how do we know that a substance or work activity requires full COSHH consideration and controls? It is a good idea to have your dental nurse(s) write down all the substances in their surgery with a hazard warning label on and submit that

to the manager or lead dental nurse who is going to evaluate them. In that way, you know you aren't going to miss anything. You can then create a document as in table 1 and evaluate them individually, which may then lead you to carry out a full risk assessment or just leave it as having been evaluated.

As an absolute minimum, your COSHH folder should include the following items:

- Acid etch
- Alcohol gel
- Alginate
- Amalgam
- Biological aerosols
- Bond
- Chloroform
- Detergents
- Developer and fixer
- Ethyl chloride
- Fixative
- Hypochlorite (canal irrigation and household bleach)
- Latex
- Legionella
- Methyl methacrylate
- Sharps.

Review

As with all things health and safety, the default review period is one year. However, it is reviewed more frequently if there is an incident or accident, a new product is used, there has been a change in legislation, there has been a change in the formula of the product, a new employee starts or there

is a change of ownership of the business. Sign and date that you have reviewed the assessment. Do not put labels over previous signatures but list them each year it has been reviewed, so you can show a pattern of reviewing risk assessments.

Conclusion

COSHH forms a vital part of the control of substances that could harm employees. It is the overall accountability and responsibility of the business owner to control these particular hazards so as to keep those on their premises safe. A full COSHH evaluation of all hazardous substances should be carried out with those posing the most hazard *in the work activity* being fully evaluated. The MSDS needs to be available for all substances with a hazard warning label on – this is most conveniently saved electronically for ease of access and space/planet saving.

References

1. <http://www.legislation.gov.uk/ukpga/1974/37/section/2>
2. <http://www.hse.gov.uk/pubnS/hsc13.pdf>
3. <http://www.hse.gov.uk/pUbns/priced/l5.pdf>
4. <http://www.hse.gov.uk/competence/what-is-competence.htm>
5. <https://www.dentsplysirona.com/content/dam/Dentsply-Sirona-Flagship/australia/sds/KalzinolLiquid4993-76-Jun17.pdf>



Diagram 1.