REACH, COSHH & CLP

a cleaning industry perspective

SELDEN

REACH, COSHH and CLP from the perspective of the Cleaning Industry.

REACH is now recognised as being the single most difficult European regulation to understand and comply with. This paper looks at the interaction been REACH, COSHH and CLP; how the regulations work together and where, as an industry, we go from here given the recent discussions about corrosive washing up liquids and floor cleaners.

REACH is all about what we use a product for, how we use it and for how long we use it. There are two perspectives - human exposure / impact and environmental exposure / impact.

CLP is the globally harmonised labelling regulation intended to make sure products are consistently labeled regardless of location.

CLP and REACH are joined and are best viewed as a single subject, REACH and COSHH also sit side by side. Under COSHH, it is the responsibility of the employer of the person using a product to fully assess risk. Under REACH, it is the supplier of the product who must provide the risk and prevention information for each task performed by the end user.

Taken all together you will see the motive and it makes a lot of sense, so before looking at some detail, here is a broad brush synopsis of REACH.

An overview of the background to REACH – Registration, Evaluation, Authorisation and Restriction of chemicals.

Some considerable time ago all raw material suppliers and producers were mandated to evaluate their product risk in use and environment impact then register the material and publish the relevant data in a Safety Data Sheet. In doing so they needed to consider what the use would be made of the materials all the way down the supply chain to the end user. For any given ultimate use (regardless of sector) they had the option to support that use or not.

As a cross check the downstream user then has a duty to ensure that the ultimate use of the raw material is, in turn, supported by the (upstream) raw material manufacturer. If the raw material was found to be unsupported by the manufacturer, then a downstream blender or user should inform the manufacturer of this and the said manufacturer could choose to support the use or not.

If the decision to support or not was 'no', then the downstream user would have to make one of the following decisions:

- Find another supplier who will support the use of the raw material for the given task
- Register the raw material for the use themselves (astonishing amount of work required)
- Stop using the raw material for that use

Only when a raw material has been registered for a given use can a valid compliant risk assessment be made.

An example of an unsupported product

Sulphuric acid is supported under REACH for many uses and is deemed safe to use given the appropriate risk management measures determined by the supplier are followed.

However the use of sulphuric acid as a drain opener is not currently supported and the options open to the packers of sulphuric acid are limited to:

- either registering it for the use of opening drains
- or stop using and marketing the material for this purpose.

In the absence of the task specific data for using sulphuric acid for this application it is (almost) impossible to complete a valid risk assessment for using sulphuric acid as drain opener and by extension it is unsafe to use it in this way and must therefore not be used in this way.

This principle works up and down the supply chain from original feedstocks e.g. oil, or plant based materials, right down to a ready to use mixture in a bucket or a trigger spray. The data for each raw material, at whatever dilution it is used, needs assessing for each and every use. If the data is missing an alternative source or supply should be found because in the final analysis a valid risk assessment must be done before a task is undertaken.

In practice, given the fact that the industry has had sufficient notice, what has happened is this: Raw material manufacturers have done the work such that they now supply the blenders of cleaning chemicals (Selden are in this category) with the correct data supporting the various EU approved tasks and if anything was missing the blenders informed their suppliers and the data was forthcoming. The blenders have now had sufficient time to fully understand how end users perform tasks and match these up with the various EU approved exposure scenarios, at the various dilutions, and should be in a position to perform the calculations and supply this information down to the end users - see section 8 of the SDS entitled 'Risk Management Measures'

For their part, the end users have the obligation to ensure that any use / dilution of a product is supported by their supply chain and should anything be missing they need to request this information back up the supply chain, in turn, their suppliers will either support the task at the dilution or not.

If not, the end user will not be able to complete a valid risk assessment and must either modify how they use the product or find an alternative product / supplier who can support the activity all the way through to a valid risk assessment.

CLP changes the labelling landscape

A product is supplied by a manufacturer to a distributor and on to an end user in a neat format and if this product were to be spilled would it corrode what it landed on? Most of us think of corrosion as something that happens to metals or materials such as limestone or terrazzo flooring. However, as far as CLP is concerned, the easiest surface to corrode is the human eye. So if the neat product will corrode the eye it is corrosive, regardless as to whether or not it will corrode metals etc. Generally, it is accepted that this is fair, it's just a shame the corrosive symbol didn't change composition as well as shape.

If CLP was on its own this would be a problem, but REACH recognises that you then do something with the product. These are known as tasks, you do a task for a duration of time, then you dispose of the chemical product into the environment.

To illustrate this:

The first task we would or could do with, for example; a 5ltr container of a hard surface cleaner: Decant the neat product into a secondary container, typically a bucket, sink ,or trigger, though there are others.

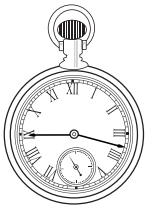
This process needs evaluating as the product is, in this example, corrosive in its neat form. Is the dilution method though a pelican pump, measuring cup, venturi, dosing bottle etc, or maybe just a good old fashioned glug? Each one will have its own associated risk and this will need assessing. The manufacturer / supplier MUST support the decanting process under REACH otherwise the product can't be decanted.

In law the end user is not sufficiently competent to risk assess the No Effect Level of this dilution independently.

So the product is now in both a bucket at (say) 100:1 and in a trigger spray at 20:1, the end user has 2 tasks (working instructions) and their risk assessments.

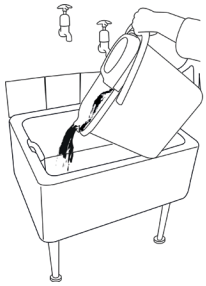
Next we want to damp mop the product, there will be a task for this and the occupational exposure will take into consideration the likelihood of the product getting in the eyes, lungs and skin together with the amount of chemical that could be expected to make each of those journeys based on the amount of time spent doing the task. Ventilation is considered as well, so there are different results for inside versus outside. However, in the cleaning industry it has been determined by agreement that interior cleaning will be presumed to be done without ventilation i.e., windows are presumed to be shut. Back to the damp mopping for 15mins, the REACH calculation will come up with any Risk Management Measures, these will be conveyed to the end user and will form part of risk assessment 3. Then we are going to use the trigger spray for 1 hour and clean surfaces that are at head height or higher. The REACH calculation will use the task data associated with this sort of activity and a completely new and (probably) different set of Risk Management Measures will be required to complete the job. That's risk assessment 4.

The same cleaner then works the rest of the day with the same trigger spray at lower levels spraying away from and below the head, there is a lower risk so the PPE could very well change. The REACH calculation is done and as expected the face mask comes off and is replaced by regular safety goggles. This is written up as risk assessment 5.



Finally we need to know what the cumulative effect of this days works has been. There is a maximum exposure limit - DNEL - the employee may be subjected to before the exposure becomes unsafe and this needs calculating. There is the need for a rather detailed addition risk assessment here – number 6.

Just for good measure REACH also looks at environmental impact, so how does the product from each of the tasks above enter the environment? Discharge into a foul drain ends up in a water treatment plant, if the plant has spare capacity the effect is negligible as all chemicals absolutely must be biodegradable. However, an uncontrolled discharge has a much greater effect. Different tasks have different environmental exposure scenarios.



So where does this leave the industry?

The Health and Safety at Work Act is of course alive and well, we are all familiar with the concept of the risk assessment. What has changed is how the risk assessment is arrived at.

By law the end user (or anyone in the chain) cannot make an educated or best practice guess, the information must pass down the supply chain and must be acted upon.

At each stage in the chain there is the provision for the organisation at that stage to do the calculations for themselves so an end user could in theory do the whole thing themselves. However, in practice this is not possible because the end user simply can't get access to everything in sufficient detail that they need.

A manufacturer, such as Selden, is supplied with MSDS's detailing the exposure scenarios for all the supported tasks, these need compiling into a form whereby the same calculations can be performed on behalf of end users, an absolutely mammoth task and one that needs a lot of computer programming.

Therefore, the end user is absolutely dependent on the manufacturer to complete a legally compliant risk assessment.

FAQ

Is or can a product be REACH compliant?

Yes it can be but it is not a consideration for a risk assessment; it's more a case of looking at the the negative. If a raw material is imported into or produced in the EU and is not registered (by its' registration date) under REACH, it must not be used. In such a case it would be impossible to provide any form of valid risk assessment. In practice one would have to put some effort into importing such materials illegally and this would be highly likely to lead to prosecution with some severe penalty.

Is or can a business be REACH compliant?

You can only be REACH compliant either internally or backwards up through the supply chain. In addition you should not promote the use of or task associated with a product or raw material at any dilution down the supply chain unless you are able to support a valid risk assessment. A failure of a chemical manufacturer or blender to supply the full information required to make a valid assessment is not an offence, however, for an end user to use the product regardless is an offence.

What would a valid risk assessment need to include?

Looking at this only from the perspective of cleaning chemicals which make up a part of a risk assessment the following is essential, this is not an exhaustive list.

- How a product is diluted (or not).
- How the product is used.
- The concentration of the product used (dilution rate).
- How long the task is performed for.
- Where the task is performed from the perspective of ventilation.
- What happens to the product after use – disposal.

Each task / dilution / time is taken as an individual case and a calculation must be performed on it, the result of which is deemed the Risk Characterisation Ratio (RCR). The RCR is the cornerstone of REACH.

There is also a requirement for the compounding of task / exposure data required to ensure than a employee is at all times kept below the No Effect Levels of all the materials that they come into contact with.

Who is liable if a risk assessment is based on false, inaccurate or missing information?

Under REACH due diligence is not a valid defence. End users need to be confident their supply chain has sufficient capability and resources to correctly calculate the RCR as it is the end user who is liable.

What is the Risk Characterisation Ratio – RCR?

The RCR is the key calculation which determines whether or not a product is safe to use for a given task. Simplified into words, the equation looks something like this.

$$\text{Danger} = \frac{\text{A predicted and or potential (from misuse or accidental use) dose}}{\text{Harmful dose}}$$

Can 3rd party consultants analyse the data in a safety data sheet and, given knowledge of the tasks involved perform the RCR calculation?

In theory, yes. However in practice this will be exceptionally difficult. They will first of all have to map all the tasks back to the EU approved list of tasks and then they will need access to each of the SDS's supplied to each manufacturer and then they will need the exact formula of each product.

There is insufficient data on a Safety Data Sheet for anyone to verify that the Safety Data Sheet is itself correct or otherwise. However, an experienced professional may question elements on a safety sheet and refer them back to the manufacturer for clarification. It is against the law to read for example "breathing apparatus must be worn" and then decide that from their experience this is not necessary. In effect ignoring the safety data sheet; in such a case the risk assessment would be deemed falsely prepared.

What of the Environment?

REACH extends beyond workplace safety and recognises that chemicals are discharged into the environment. It is a criminal offence to sell a chemical that is not biodegradable so REACH takes that as read and evaluates the environmental impact as being a function of how each of the raw materials in a product biodegrade and seeks to prevent the discharge of them in a way that would have a potentially damaging environmental impact.

For example washing up liquid discharged down the sink to eventually arrive at a water treatment facility has an extremely low environmental impact. Whereas the same washing up liquid being used to clean a car and being washed away down a storm drain has a much greater impact. Environmental impact data must be conveyed to the end user under REACH.

So what is the value of the Safety Data Sheet?

The SDS conveys the key information about the product so that an end user can make a correct risk assessment. There is now general agreement between manufacturers and European enforcement bodies (HSE's) that this is best done as a supplement or appendix to the SDS. Though manufacturers can, if they wish, simply extend the size of the SDS to include all the task / dilution and Risk Management Measures. Either way, an end user must perform a risk assessment and it must show evidence of being derived from either the SDS and / or a supplement.

Selden convey this key information in the form of a Chemical Safety Assessment whose content comes directly from the RCR calculation and is absolutely consistent with the Selden SDS's

What is DNEL – Derived No Effect Level?

The level of exposure above which humans should not be exposed. The risk to humans can be considered to be adequately controlled if the exposure levels estimated do not exceed the appropriate DNEL.

What is PNEC – Predicted No Effect Concentration?

This is the environmental version of DNEL, it is sometimes expressed as PEC – Predicted Environmental Concentration.

Do Safety Data Sheets need to be physically on site?

No. However a valid risk assessment must be and as part of that risk assessment the SDS appendix, supplement or in Selden's case the Chemical Safety Assessment should be physically on site.

What of the 2018 deadline?

In terms of an implementation date, this is a total red herring. The regulation is on the statute books now and any accident claim or prosecution will be contested under REACH rules. For all intents and purposes the only relevance of 2018 is that SDS's and exposure scenarios will change on a regular basis up to and probably way beyond the turn of the decade.

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