

Meeting **natural** expectations



Executive Summary

'Natural' expectations - different things for different people

An enthusiasm for all things 'natural' is a defining trend of our time and natural approaches and products now seem to be advocated or offered in almost every field of human activity. But what exactly do people believe 'natural' things or approaches will do for them, for humankind, or for the planet?

Reviewing the various possible meanings and implications of the term 'natural' shows how it engenders many different sets of expectations among different groups of people. Many see 'natural' things as much in terms of rejection of non-natural (i.e. man-made) things, as of their own benefits. Man-made things tend to be associated with factories and industry and thus, for some, pollution and capitalism. Man-made is modern: natural is traditional, but is sometimes viewed as beyond modern.

Natural risks - smaller, or just more acceptable?

Some see man-made things as 'interfered with', and thus bringing risks that are somehow greater or less acceptable than the risks posed by natural things. But is this a sound, objective evaluation or does it reflect unease about interfering with the natural order of things, or a feeling that natural risks are somehow easier to accept than man-made ones? To what extent does it actually reflect a lack of confidence in the technology that produces man-made products, in mankind's ability to design safe products, or mistrust in the priorities and motives of the people and corporations who make them? These expectations will tend to reflect values and beliefs as much as hard facts.

Natural products are not intrinsically safer

It is probably a common expectation that natural products will somehow tend to be safer, for people and for the environment, and ultimately more sustainable than man-made things. But the hard evidence offers little to support such a view.

'Natural' chemicals - meaning the ones that occur in nature - are not routinely and intrinsically safer than man-made 'synthetic' ones.

Take the world of cleaning products for example: keeping ourselves, our clothes and our environment clean has become both a benchmark of civilisation and a cornerstone of our ever-increasing health and longevity. Cleaning depends on the use of water and a variety of other substances. Choosing 'natural' substances as ingredients is seen by some as an alternative to using 'chemicals'. But all substances are just arrangements of atoms of the same 90-odd chemical elements of which the planet is made. Grouping substances into 'natural' or 'man-made' categories in this way is thus essentially meaningless and misleading.

Objective assessment shows that 'natural' chemicals - meaning the ones that occur in nature - are not routinely and intrinsically safer than man-made 'synthetic' ones. And a given chemical, such as ethanol, which we also drink as alcohol, is certainly not intrinsically safer just because it is made 'naturally'. Toxicity, as Paracelsus had it, is only a matter of dose.

The same also applies to environmental safety. Considering the two key parameters - biodegradability and potential to 'bioaccumulate' - man-made substances can be just as degradable and unlikely to bioaccumulate as natural substances. It all depends how you design them.

Beyond safety, the goal is long-term sustainability

Looking beyond safety to sustainability, natural and synthetic materials have no intrinsic difference in terms of recyclability. Plant-derived, as opposed to petroleum-derived, substances should have the edge in the long run, however, because they are potentially renewable. But 'natural' chemicals, even if renewable, are not routinely and intrinsically more sustainable than synthetic ones since even renewable materials must be sustainably produced.

“Achieving sustainable development is perhaps one of the most difficult and one of the most pressing goals we face.”

Mostafa Tolba, Chairman of the UN Commission on Sustainable Development

A central parameter in the sustainability of the whole cleaning life-cycle is performance - how successfully the product delivers what the consumer expects and how much needs to be used to do that. Dosage drives every other aspect of the sustainability equation - dosing more simply uses more resources and creates more waste. While both natural and man-made substances have a part to play in sustainable cleaning, many man-made ingredients were developed specifically to be better performing versions of 'natural' ones.

Subjective assumptions must not cloud our judgement

Consumers will make choices and demands according to their values and beliefs, and manufacturers must meet those needs. But popular assertions and assumptions about 'natural' must not be allowed to cloud judgement or compromise progress, beyond the constant assurance of safety, towards long-term sustainability. To this, cleaning products manufacturers are completely committed.