
# Executive Summary

*The BizNGO Guide to Safer Chemicals*—call it *"The Guide"* for short—is a unique resource for downstream users of chemicals. It is a hands-on-guide that charts pathways to safer chemicals in products and supply chains for brand name companies, product manufacturers, architects and designers, retailers, and health care organizations.

Chemicals are at the core of our materials, products, and manufacturing systems, and as such should be at the core of our sustainability programs. Yet many a downstream business, those organizations that use chemicals by virtue of the products they purchase, has avoided starting this journey thinking that the path to greener and safer chemicals is too clouded in complexity and uncertainty. *The Guide* is our response to these uncertainties and is intended for both novices and experts.

## The Purpose of *The Guide to Safer Chemicals*

*The Guide*:

- marks pathways to safer chemicals in products and supply chains.
- sets relative benchmarks for each of the four BizNGO Principles for Safer Chemicals.
- specifies actions for each benchmark.
- presents examples of business practices for each benchmark.
- illustrates how downstream users are getting started and advancing on their paths to safer chemicals.

Users of *The Guide* will learn how to:

- measure internal performance, identify areas of improvement, and track progress to safer chemicals.
- benchmark performance in comparison to other organizations.
- communicate to the public their organization's performance in moving to safer chemicals based on an independent metric.

The question of how to implement the Principles for Safer Chemicals is the inspiration for *The Guide*. As many a potential traveler has said to us: "We agree with the spirit of the BizNGO Principles. But what does it mean to implement them?" The writing of *The Guide* is our initial (v.1.0) answer to that question.

***The Guide* uses a hiking metaphor of four benchmarks—Trailhead, Base Camp, High Camp, and Summit—for the journey to implementing the BizNGO Principles for Safer Chemicals. The benchmarks are relative indicators of performance, not absolutes.**

## The Foundation of *The Guide*: the BizNGO Principles for Safer Chemicals

Our journey towards *The Guide* started in 2008 with the release of the BizNGO Principles for Safer Chemicals—a set of aspirational goals for advancing the development and use of inherently safer chemicals in products and production processes. The BizNGO Principles are:

1. Know and disclose product chemistry.
2. Assess and avoid hazards.
3. Commit to continuous improvement.
4. Support public policies and industry standards that advance the above three principles.

## The Benchmarks

*The Guide* uses a hiking metaphor of four benchmarks—Trailhead, Base Camp, High Camp, and Summit—for the journey to implementing the BizNGO Principles for Safer Chemicals. The benchmarks are relative indicators of performance, not absolutes. They are indicators of a progression from relatively easier actions at Trailhead to progressively more challenging and comprehensive actions at High Camp and Summit.

The benchmarks require an increasing scope and depth of knowledge about chemicals and their impacts to move from Trailhead to Summit. For example, in Principle #1a-Know Product

Chemistry—Trailhead is know some chemicals of high concern, Base Camp is know all chemicals of high concern, High Camp is know all chemicals in all products, and Summit is know all chemicals in supply chains and sources of feedstocks. The Figure "From Trailhead to Summit" summarizes how all the benchmarks scale from Trailhead to Summit.

**The questions purchasers need to ask suppliers are what are your systems for: knowing chemicals in products; identifying chemicals of high concern; evaluating alternatives; and selecting safer alternatives.**

## Getting to Trailhead: Stepping Beyond Compliance

Trailhead is where downstream users start on the path beyond compliance to safer chemicals. As shown in the Figure, From Trailhead to Summit, the journey for implementing Principles #1 and #2 starts with a few chemicals of high concern in products or processes.

Chemicals of high concern are so prevalent in our global economy that the vast majority of products have chemicals of high concern in them. Finding chemicals of high concern in products is not the challenge for downstream users. The challenge is determining which ones to target first. A company can identify and target chemicals of high concern through a variety of pathways. Environmental organizations, government agencies, institutional consumers, and other companies are all good sources for identifying emerging and existing chemicals of high concern. Examples of chemicals of high concern addressed by downstream users include polyvinyl chloride (PVC), phthalates, brominated flame retardants, Bisphenol A (BPA), formaldehyde, and perfluorinated compounds.

Organizationally, companies may start at Principle #3 by establishing an organizational policy or guideline. In some companies it is easier to work below the radar screen of upper management and take action against a few chemicals of high concern, demonstrate success, then gain organizational support for what was already achieved, and gain approval for an organizational policy. In other companies, high level policies are the first step in driving action across the organization.

## Getting to Base Camp and High Camp: Creating Systems for Change

Replicable and scalable systems are essential to moving beyond a handful of chemicals of high concern.

An example of a linked set of systems is:

1. ***Know chemical ingredients in products.*** Examples include using the Health Product Declaration form and Seagate's system for collecting and managing data in products.
2. ***Identify chemicals of high concern.*** Examples include using ChemSec's SIN List and GreenScreen Benchmark 1 Chemicals (as determined using the List Translator).
3. ***Employ a framework for evaluating alternatives.*** Examples include using HP's Integrated Alternatives Assessment Framework and BizNGO's Chemical Alternatives Assessment Protocol.
4. ***Assess hazards of alternatives.*** Examples include using the GreenScreen for Safer Chemicals and Cradle to Cradle Certified.

The questions purchasers at the far end of the supply chain need to ask suppliers are, what are your systems for:

- knowing chemicals in products,
- identifying chemicals of high concern,
- evaluating alternatives, and
- selecting safer alternatives.

A short version of these questions would be how do you score on the BizNGO benchmarks.

## Getting to the Summits: Setting the Compass to Inherently Safer Alternatives

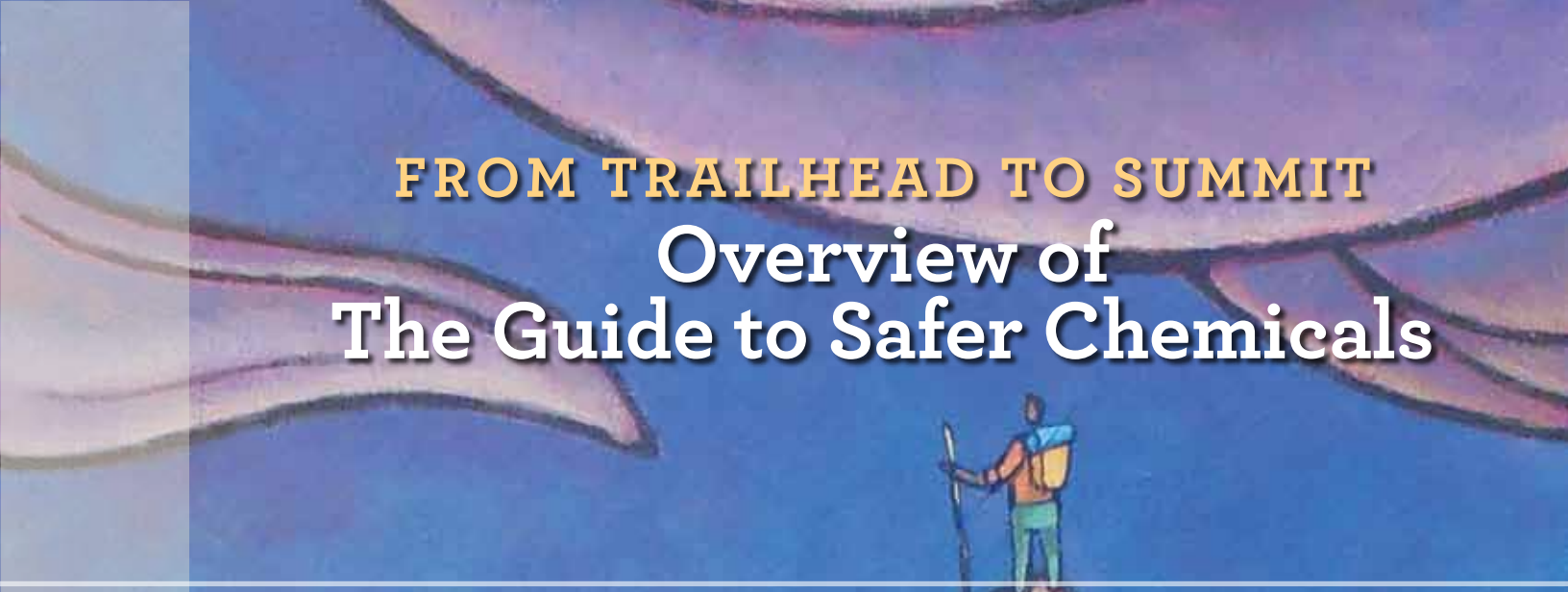
Travelers to the Summits of *The Guide* have set their sights on specifying inherently safer chemicals, materials, and feedstocks across all of their products and supply chains. In looking across companies that are able to come close or reach the Summit for some principles, they share three common elements of success, namely they have the capacity, will, and systems in place to ensure long term adoption and implementation.

Capacity matters. Effectively managing chemicals in products and across supply chains requires technical capacity or staff. Organizations at or near the Summit have access to:

- deep knowledge and understanding of chemicals in products and supply chains, as well as the sources of feedstocks.
- technical capacity and systems for managing data, evaluating alternatives, and selecting and implementing safer alternatives.

# FROM TRAILHEAD TO SUMMIT

# Overview of The Guide to Safer Chemicals



## Summit

**Know**
All chemicals in supply chains & feedstock sources

**Disclose**
All chemicals in supply chains & feedstock sources

**Assess & Avoid**
Specify safer alternatives

**Improve**
Report progress to BizNGO Principles using *The Guide* (or equivalent)

**Support**
Integrate BizNGO Principles into legislation & speak to media

## High Camp

**Know**
All chemicals in products

**Disclose**
All chemicals in products

**Assess & Avoid**
Select & implement safer alternatives to chemicals of high concern

**Improve**
Implement systems for managing data & identifying safer alternatives

**Support**
Collaborate with NGOs & integrate BizNGO Principles into regulations

## Base Camp

**Know**
All chemicals of high concern in products

**Disclose**
Most chemicals in products

**Assess & Avoid**
Identify all chemicals of high concern

**Improve**
Endorse BizNGO Principles for Safer Chemicals

**Support**
Integrate BizNGO Principles into voluntary initiatives

## Trailhead

**Know**
Some chemicals of high concern

**Disclose**
Presence/ absence of some chemicals of high concern

**Assess & Avoid**
Create and implement restricted substances list (RSL)

**Improve**
Establish organizational policy

**Support**
Speak publicly on implementation

Will is essential. An effective chemicals management program requires organizational motivation and drive to move beyond legal compliance and maintain that trajectory over time. This comes in many forms, including: organizational mission, internal champions, and organizational policy or guidelines. Some of the most successful organizations on the path to safer chemicals have an internal mission to promote safer chemicals and values consistent with addressing chemicals of concern to human health or the environment.

A clear driver within many leading organizations is the presence of internal champions. Champions have a personal passion for the issue and possess technical or organizing skills that enable them to demonstrate the value of safer chemicals implementation. Internal champions gain organizational support for this work and share many of the characteristics of "tempered radicals:" individuals who are "fundamentally different from, and possibly at odds with, the dominant culture of their organization;" yet "have been toughened by challenges, angered by what they see as injustices or ineffectiveness, and inclined to seek moderation in their interactions with members closer to the centre of organizational values and orientations."[1]

Systems are fundamental. Successful implementation over the long term requires the development and implementation of systems. Systematic procedures are needed to collect and evaluate chemicals and their alternatives, validate data, select and implement safer alternatives, and specify green chemistry solutions. These procedures can be internal, outsourced, or a combination of the two. Leaders in safer chemicals implementation develop procedures that can be implemented over the long term and that are organizationally integrated as part of long term planning.

## *The Guide* is a Living Resource: Tell Us of Your Journey

Significant insights we learned over the course of writing *The Guide* are:

1. ***Stepping beyond Trailhead requires systems.*** Organizations moving beyond Trailhead have systems in place for managing data, identifying chemicals of high concern, communicating with suppliers, and evaluating and selecting alternatives.
2. ***Having an agreed upon list of chemicals of high concern will accelerate the rapid screening of chemicals.*** The ChemSec SIN List and GreenScreen Benchmark 1 chemicals are readily available solutions. And the GreenScreen List Translator is the quickest route to rapidly identifying GreenScreen Benchmark 1 chemicals (although we must note the conflict of interest of the authors, one of whom is a co-author of the GreenScreen).
3. ***Leveraging the primacy of hazard facilitates priority setting, communicating with suppliers, and selecting inherently safer alternatives.*** The BizNGO Chemical Alternatives Assessment Protocol and the GreenScreen for Safer Chemicals are both well-suited for supporting hazard-based decision making (although note again the conflict of interest of the authors).
4. ***Raising the collective voice of downstream users is critical for growing the broader global movement to safer alternatives to* chemicals of *high concern to human health or the environment.*** Ultimately corporate leaders in safer chemicals will only succeed if their efforts are mainstreamed globally. This will require the insertion of know, disclose, and assess and avoid hazards into public policies, industry standards, ecolabels, certifications, and voluntary sustainability initiatives.

*The Guide* is a living resource and will evolve over time as we learn more about the challenges and opportunities that organizations face in implementing these benchmarks. If you are a downstream user of chemicals and want to join us on the journey to safer chemicals, please contact us at *TheGuide@bizngo.org*. We look forward to hearing your feedback and experiences.

1 *D.E. Meyerson and M.A. Scully, 1995, "Tempered Radicalism and the Politics of Ambivalence and Change," Organization Science, v.6n.5.*