

stewardship practices. In practical terms, safe use calls for an assessment of the risks at various stages throughout the life cycle associated with the uses of a mineral- or metal-containing product. The results of the assessment are then used to determine the most appropriate management approaches to address these risks. This also means that, in some cases, the risks associated with certain products or product uses cannot be properly controlled or managed. Where such a situation exists, governments will need to prohibit that specific product or product use. The safe use principle allows society to derive the benefits from minerals- and metals-related products while protecting health and the environment.

Agenda 21, Chapter 19, states that "a substantial use of chemicals is essential to meet the social and economic goals of the world community and today's best practice demonstrates that they can be used widely in a cost-effective manner and with a high degree of safety. However, a great deal remains to be done to ensure the environmentally sound management of toxic chemicals, within the principles of sustainable development and improved quality of life for humankind".

Although aspects of the sound management of chemicals are being addressed in several fora, minerals and metals need to be recognized as a unique component given that they behave differently than synthetic, organic, or chemical contaminants. Such recognition will allow for the appropriate risk management.

### **Mine Waste/Tailings Disposal**

Mining operations are disruptive to the environment for relatively short periods of time (forty to eighty years). Short- and long-term management of mine waste is an environmental challenge for the mining industry. Waste rock and other refuse material separated from the desired minerals in mining and milling need to be handled in an environmentally responsible manner. This is especially important in the management of sulphide-bearing wastes due to the potential for acidic drainage. Several countries are working to address this issue. In 1989, Canada launched a major cooperative government/industry program, the Mine