

Global Chemical Industry

Capacity Building



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ICCA'S COMMITMENT TO CAPACITY BUILDING

The International Council of Chemical Associations (ICCA) – the worldwide voice of the chemical industry – makes use of capacity building as a tool to improve chemicals management. It enables our member companies and national chemical associations to share best practices in environment, health and safety (EH&S) among themselves and to improve chemicals management and product stewardship through the supply chain.

Within the global chemicals sector, capacity building involves activities as diverse as working with stakeholders such as regulators and the authorities to prevent illegal traffic, developing emergency response programs, training distributors on safe handling, and promoting technology transfer.

Adopting a Global Approach

Capacity building is particularly vital to strengthen effective chemicals management in the developing world. Some capacity building activities are well established and may even be required under national legislation. The provision of Material Safety Data Sheets for products in local languages, and training on chemicals handling, for example, are taken for granted in many parts of the globe.

However, in developing countries the manufacturing companies together with the national chemical associations play a leading role in driving effective chemicals management – whether in economies in transition or where legislative infrastructures and enforcement are less rigorous.



ICCA's Responsible Care® initiative and the Global Product Strategy (see opposite page) support the adoption of a global approach to environment, health and safety standards by ever-increasing numbers of multinational chemical companies. Many of these companies have active EH&S organizations aligned with their manufacturing sites to ensure consistent application of global policies and enable performance monitoring against targets in order to achieve continuous improvement.

Our company and association members are strengthening and expanding capacity building activities as part of their contribution to SAICM, whether it be internal or external education and training, provision of expert support for workshops and conferences, assessment and management of risk, supplier and customer auditing, or supporting international health initiatives.

New ICCA Task Force

Our focus on capacity building has been further strengthened by the establishment of a Capacity Building Task Force which, as part of ICCA's Chemical Policy & Health Leadership Group, is supporting industry's commitment to SAICM.

That commitment includes the development by associations of product stewardship programs, particularly aimed at small and medium sized organizations. This is consistent with the ICCA Global Product Stewardship Guidelines.

It also covers monitoring, tracking and publicly reporting progress on product stewardship implementation; and the development of outreach and education plans to key downstream customer groups.

The task force, in close cooperation with the ICCA's Responsible Care Leadership Group (RCLG), is also charged with development of GPS awareness-raising through capacity building workshops covering a range of issues including:

- Product safety, environmental protection & social responsibility
- Responsibility of chemical manufacturers
- Implementing product stewardship
- Product lifecycle
- Risk assessment & management
- Internal monitoring & management systems

The workshops are being conducted in those parts of the world where chemical associations have indicated a particular need, and are being carefully tailored to address local needs. They are also being held at international level.

In the longer term the task force seeks to extend and strengthen industry's partnerships with intergovernmental organizations (IGOs) such as the United Nations Environment Programme (UNEP), the United Nations Institute for Training and Research (UNITAR) and the Organisation for Economic Co-operation and Development (OECD).

A primary objective is to establish capacity building projects in key developing countries building on existing chemical safety management tools such as the Globally Harmonized System of Classification and Labelling of Chemicals, and UNEP's APELL (Awareness and Preparedness for Emergencies at Local Level) program.

SAICM AND THE ROLE OF CAPACITY BUILDING

At the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, governments set a goal “...that by 2020, chemicals will be produced and used in ways that minimize significant adverse effects on the environment and human health.” This led to development of the Strategic Approach to International Chemicals Management (SAICM), spearheaded by the United Nations Environment Programme (UNEP) and adopted in 2006 at the first International Conference on Chemicals Management (ICCM-1) in Dubai, United Arab Emirates.

UN member countries and non-governmental organizations including the International Council of Chemical Associations (ICCA) agreed to report progress on SAICM implementation at future ICCMs in 2009, 2012, 2015 and 2020. Key to ICCA's approach is its Responsible Care® initiative to drive continuous improvement in all aspects of health, safety and environmental performance and to be open in communication about its activities. A core element of Responsible Care is product stewardship, the commitment to enhance the safe use of chemicals throughout the value chain.

An important step to reinforce this commitment at the global level was the launch of the Global Product Strategy (GPS) and the Responsible Care Global Charter at ICCM-1. The GPS and the Global Charter are cornerstones of ICCA's contribution to SAICM and, together with SAICM itself, share an important component: capacity building, which can be defined as “ **the improvement of competency in the safe and environmentally-sound management of chemicals** ”.

This publication aims to highlight a small selection of company-level activities – the majority supplied by members of the ICCA's Chemical Policy & Health Leadership Group – to serve as examples of the global chemical industry's ongoing capacity building and knowledge-sharing activities in developing countries and economies in transition. Activities range from highly targeted projects to more general policies and practices.

This ICCA folder offers a snapshot of the capacity building activities undertaken by **member companies**. Within our industry, there are three distinct levels of capacity building:

- that carried out by ICCA with its member associations and companies, with governments and intergovernmental organizations, and with other international stakeholders;
- the capacity that national associations build with respect to their member companies, and with other organizations and stakeholders at national level including government;
- the capacity that companies build with regard to stewardship of their products and processes with employees, the whole value chain and other stakeholders including communities.

More examples of capacity building at the company and association level can be found on the ICCA website www.icca-chem.org and in the 2008 Responsible Care Status Report. The Status Report can be downloaded from the ICCA website.



BASF TARGETING SMES AND COMMUNITIES

One of the world's largest chemical companies, BASF has an established track record of sharing its expertise, knowledge and know-how on a global basis.

In cooperation with the United Nations Industrial Development Organization (UNIDO) and the United Nations Environmental Programme (UNEP), BASF developed software aimed at introducing eco-efficiency to small and medium sized enterprises (SMEs) operating in the textile dyeing industry. This technology is not only more environmentally friendly but also enabled users to save costs and resources.

Since its launch in 2002 in Morocco, the technology has been introduced to North Africa and Egypt through UNIDO National Cleaner Production Centres. And BASF has trained UNIDO staff at its German headquarters in the use of the eco-efficiency analysis enabling them to provide expert advice to textile companies in their home countries. A 2006 training workshop in Egypt, for example, attracted 40 participants from textile finishers and processors, and offered the opportunity to establish contact with European brand manufacturers and dealers.

Adding value with "1+3"

SMEs are also the focus of BASF's "1+3" project, launched in China in October 2006 as part of its corporate social responsibility (CSR) activities. Starting from just a few participants, the concept has been rolled out to over 55 companies in the past two years. Under "1+3", BASF forms a team with three types of business partners in the supply chain – ideally a customer, a supplier and a logistics service provider – with the aim of promoting CSR and giving guidance through sharing best practices and expertise.

The process involves inspections carried out by expert teams to assess the environmental and safety management standards of the project partners and, when necessary, working out possible solutions. Responsible Care self assessment training and performance assessments are conducted with the partners, enabling them to implement processes for continuous improvement.

The project has been devised to have a "snowball" effect whereby the SMEs will themselves repeat the "1+3" process with their own supply chain partners to pass on their learnings and experiences. As well as raising general awareness of CSR with participating SMEs, the project has helped them to improve their focus on workplace health and safety, take steps to reduce emissions, and promote stakeholder dialogue.

For BASF, it has proved an effective means of strengthening long-term strategic partnerships with SMEs and improving supply chain competitiveness. The success of BASF's "1+3" CSR project was highlighted when it was recognized as a best practice case by the United Nations Global Compact in January 2008. Other multinationals – also members of the Hong-Kong registered Association of International Chemical Manufacturers together with BASF – have since taken up the "1+3" challenge.



BAYER**PARTNERS FOR YOUTH AND THE ENVIRONMENT**

Bayer and UNEP operate a successful youth environmental education partnership which benefits young people all over the world. Launched in 2004, Bayer became UNEP's first private-sector partner in this field with the signing of a global partnership treaty by former UNEP Executive Director Klaus Töpfer and Bayer CEO Werner Wenning. That treaty was renewed for a further three years by UNEP Executive Director Achim Steiner and Werner Wenning in 2007.

The partners run a dozen projects for young people with the focus on capacity building in environmental protection and sustainable development. As well as contributing the expertise of its own employees, Bayer gives financial support to the joint activities, providing over €1 million each year to fund regional workshops and conferences in Asia-Pacific, West Asia, Latin America, Africa and Eastern Europe. The project has particular emphasis on countries in transition and developing countries.

These activities help to build up young people's environmental knowledge and to empower young environmentalists. Best practices from the private and public sectors and civil society are shared through processes driven by stakeholder dialogue. Key themes include clean and safe production, product stewardship, climate protection, water protection and natural diversity.

Investing in the future

Every two years a global youth summit is organized for network building and exchanging knowledge and experiences between the regions. Bayer hosted the most recent global environmental youth summit, the 2007 Tunza International Youth Conference, at its headquarters in Leverkusen, Germany. Over the course of a week, 200 young environmentalists from 85 countries discussed the theme Technology Serving the Environment, and developed action plans for their communities.

Another biannual event established by the partners is a special, science-driven forum called Eco-Minds which takes place in Asia-Pacific and enables young students, working together with scientists, to develop hands-on solutions for specific environmental problems in the region.

A further centerpiece of this unique partnership with UNEP is the Young Environmental Envoy program established by Bayer ten years ago. Schoolchildren and college students who have displayed a particularly strong commitment to environmental issues can apply to become environmental envoys for their countries.

The best young environmentalists qualify for a one-week study trip to Germany where they learn first-hand about the principles and methods of modern industrial environmental protection. The program focuses on the interplay between industry, authorities and the community that is necessary for sustainable development. The experience and information gained in Germany is then integrated into their own environmental protection networks when these young people return home.

Numerous former Young Environmental Envoys now hold positions of responsibility in connection with environmental protection in their homelands, enabling them to provide important impetus for sustainable development initiatives at the national level.



BRASKEM

INVESTING IN THE BRAZILIAN SUPPLY CHAIN

Braskem, the largest petrochemical company in Brazil and Latin America, is committed to developing capacity across the Brazilian petrochemicals and plastics supply chain. In 2006 it set up the “Braskem + Partners” program to support partner companies’ efforts to become safer and more competitive. These activities have helped suppliers improve both their EH&S performance and the quality of products and services provided to Braskem. “Braskem + Partners” focuses on encouraging long-lasting relationships and building capacity through the development of networks promoting mutual assistance between suppliers. These networks enable the sharing of best practices that enhance management systems and operational performance.

The program is structured around six dimensions related to Braskem’s culture and dynamics: attitude, qualification, development, infrastructure, relationship and performance. The company works with many suppliers on a continuous base and 60% currently participate in the partner program. Contracts are ranked as strategically important in the areas of maintenance, supply chain, engineering and administration services. In total, around 7,000 workers have been involved in various types of capacity building activities.

The importance of education

For example, Braskem has invested in the qualification of more than 300 people at top and middle management positions in 53 partner companies, aiming to increase their commitment to improving the quality and safety level of the products and services provided. Many partners’ workers have also received training on specific aspects of their work, while others have also benefited from strengthening areas of basic education. The results of the “Braskem + Partners” program speak for themselves and are reflected in related performance indicators.

For example:

- Improvements in the productivity indices of engineering services suppliers in the Engineering and Automation Department, which have risen from 44% in 2006 to 60% in 2008;
- A reduction in the number of accidents involving employees at the Bahia Cracker Unit from 55, including four lost time accidents (LTA) in 2006 to 23, including one LTA, in 2008 - a 58% improvement in two years;
- A reduction in the number of partner companies’ employees with incomplete basic education at Braskem’s Camaçari site in Bahia. This successful education program has seen the rate fall from 48% in 2006 to 31% in 2007 and 21% in 2008 and means that not only can these employees expect to enjoy a better quality of life, but also has clear implications for the overall improvement of safety practices at work.

Braskem believes that people’s health, safety and well-being, as well as respect for the environment, are inextricably linked. They are also key issues for business sustainability, with the result that capacity building with partners is regarded as an important tool to enable Braskem to meet its performance goals at the same time as helping them improve theirs.

Capacity building is just one of the activities that Braskem carries out as a signatory of the Responsible Care® program since its introduction in Brazil by the national chemical industry association Abiquim in 1992. Braskem was also the first Brazilian industrial company to sign UNEP’s International Declaration on Cleaner Production back in 2004 and, since 2007, has committed to the UN’s Global Compact.

CIBA

RAISING EH&S STANDARDS THROUGH SUPPLIER ASSESSMENT AND SHARING BEST PRACTICE

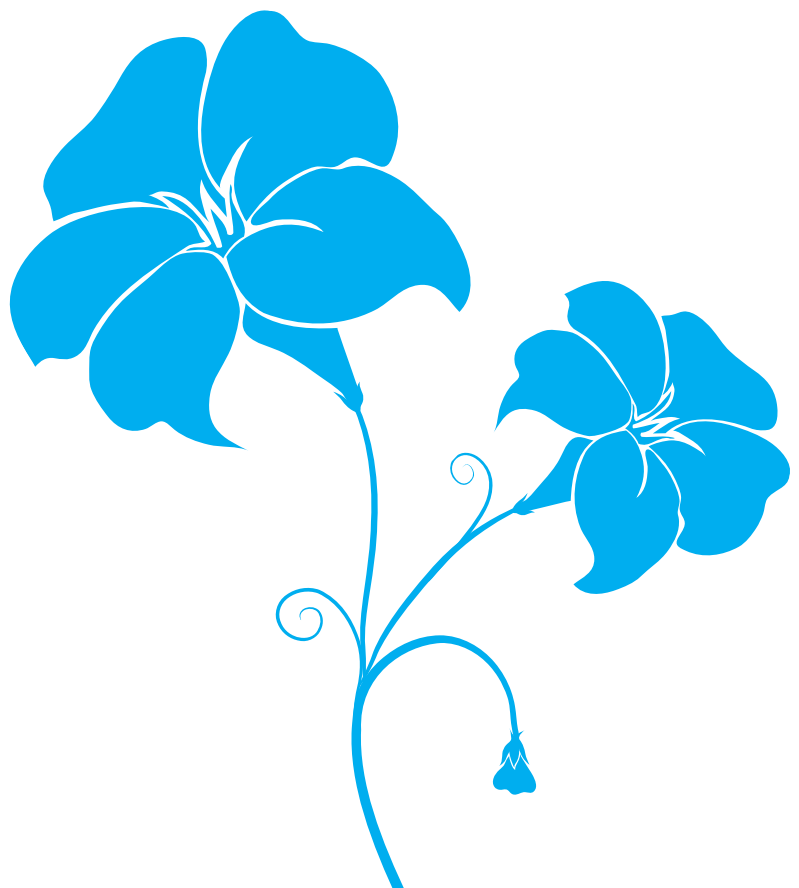
With manufacturing activities in 20 countries worldwide, Ciba's global approach to EH&S requires capacity building activities to be implemented in several locations where economies are in transition and / or in developing countries. Much of this activity is carried out as part of national and regional Responsible Care® programs in countries including Mexico, Brazil, India, China and Indonesia.

Through activities such as supplier assessments and sharing of best practices Ciba, like other leading multinationals, is actively supporting the extension of Responsible Care along the value chain in support of industry's objective to continuously improve the safe handling of chemicals, and meet the objectives of SAICM.

Supplier assessments are an increasingly important activity involving the dissemination of guidance, training, documents and direction for EH&S improvements. Regular auditing helps suppliers lift their EH&S standards, and Ciba provides specific feedback on areas that need improvement. The company has been auditing suppliers in India since 2003; in China since 2004; and in Latin America since 2006. The process has enabled relationships to be strengthened as well as resulting in EH&S improvements.

In November 2008 in China, Ciba conducted training in which site managers offered EH&S training in Chinese on "Site safety management basics" for suppliers, an initiative that drew a very positive response from participants.

Ciba's in-house expertise and knowledge is additionally leveraged through national chemical associations. In Singapore, Korea, Japan and China, for example, Ciba experts play an active role in coordinating implementation of regulations and helping guide development of new legislation. And through its EH&S advocacy organization, Ciba provides support and training sessions to national governments and IGOs. These sessions include EH&S best practices and information exchange regarding regional chemical legislation. For example, the company's global advocacy director has participated in governmental meetings in China, Indonesia and Singapore on chemical legislation projects.



DOW CHEMICAL

THE GLOBAL PRODUCT STRATEGY IN ACTION

GLOBAL CHEMICAL INDUSTRY CAPACITY BUILDING

Employees of The Dow Chemical Company played a critical leadership role in the development and 2006 public launch of the ICCA's Global Product Strategy and have made significant progress in its implementation. For example, Dow has completed and made publicly accessible more than 150 product safety assessments in an effort to provide more transparency about hazards and safe use conditions. Furthermore, Dow employees have been actively involved in developing countries in helping governments and SMEs improve their capabilities for managing chemicals safely through their lifecycles.

The company has several ongoing capacity building projects in China, one of which targets cleaner production (CP) and involves a RMB 6 million commitment from Dow. Running from 2006-08, the pilot project was undertaken with the Ministry of Environmental Protection (MEP). As of October 2007, over 700 CP options had been implemented by SMEs generating significant environmental and economic benefits.

For example, through 2007: reductions in waste water discharges exceeded 1,676,000 tons; gaseous emissions by 24 million cubic meters; and SO₂ discharges by 667.2 tons; while savings amounted to 2,767,000 kW of electricity; 3,728,000 tons of water; and 108,000 tons of coal. Moreover, these projects have generated annual cost savings of more than RMB 200 million, thus helping to convince plant leaders that pollution prevention pays.


Spotlight on safety

In September 2008, a landmark agreement between MEP officials, UNEP and Dow was signed in Beijing, creating a project designed to support safer production of chemicals and enhance safety management systems in pilot industries. The first of its kind in China, the partnership will also assist organizations charged with improving local awareness and preparedness for industrial environmental emergencies.

The GPS focus on the value chain is reflected in a project that involved a week long workshop led and sponsored by Dow to train Chinese Ministry of Health officials in risk assessment techniques to improve their tools for evaluating food safety. The event involved 60 participants from various Chinese regulatory agencies and academic institutions, and was jointly organized with the Nutrition and Food Safety Institute of the China Center of Disease Control under a three-year agreement between the two organizations.

Another example spotlights the role of capacity building in improving worker safety in China. In 2006 Dow Chemical began working with the State Administration of Work Safety (SAWS) to foster and promote better understanding and awareness of chemical safety management among SMEs from various industries nationwide.

SAWS and Dow identified 34 SMEs engaged in either storing or transporting liquid chlorine or liquid ammonia from several provinces and have reached about 4,000 staff through more than 25 training sessions in hazardous chemicals supervision. Dow has also translated the "Chlorine Manual", published by the Chlorine Institute, into Chinese; the manual offers an important reference for implementing chlorine and alkali production safety standardization. The company has provided chlorine and alkali experts with global experience to train their Chinese counterparts, with a particular focus on sharing emergency and contingency strategies used in the U.S. Dow also sponsored a visit by a delegation from the pilot enterprises and provincial departments of SAWS to the company's facilities in the U.S. and Canada as part of the RMB 6 million project.



“ We face formidable but reachable goals in China concerning safety and emergency response. This program will draw us closer to where we need to be, in essence, having safer places to live and work.”

Lijun Zhang - Vice Minister of China's Ministry of Environmental Protection, September 2008 signing of a landmark agreement with UNEP and Dow

EVONIK

KNOWLEDGE-SHARING THROUGH NETWORKING

Effective communications and networking help the chemical industry to further an important SAICM objective - to ensure that knowledge and information on chemicals and chemicals management are sufficient to enable chemicals to be adequately assessed and managed safely throughout their lifecycle.

Chemical companies dedicate considerable resources to achieve this via a range of activities. Every year, tens of thousands of stakeholders are reached directly through global programs of workshops, seminars and conferences often sponsored by companies working with government, regulators and other organizations.

Evonik is a regular sponsor of international meetings on chemicals management, providing annual funding of around € 20,000 together with a number of experts who present on topics such as regulatory developments, corporate social responsibility and industry's voluntary Responsible Care® initiative, in locations from China and Brazil to Mexico and Russia. The company uses these networking opportunities to share best practices and experience with delegates.

The new EU chemicals legislation for the Registration, Evaluation, Authorisation and Restriction of Chemicals, REACH, has prompted worldwide interest and numerous events aimed at helping industry and its partners comply.

At a typical conference in December 2008 in Prague, Czech Republic, attended by delegates from Russia, former Soviet Republics, EU companies and others, Evonik shared its approaches to ensuring efficient communication on REACH obligations throughout the supply chain.

The previous month, in a REACH workshop initiated by the German and Chinese governments, delegates learned about Evonik's experience of the pre-registration and data-sharing process for its extensive product portfolio. The success of the event resulted in the Chinese and German authorities agreeing to implement a series of workshops covering experience exchange and pilot projects in the coming years.

Representatives of China's state environmental authority have also been hosted at Evonik's European sites to enable experience exchange on the different regulatory requirements covering production of active pharmaceutical ingredients. And the company has participated in twinning projects organized by the German government under which training is provided to authorities from overseas countries.

EXXONMOBIL CHEMICAL FOCUS ON THE GHS

ExxonMobil has a well-established manufacturing base in Singapore and has made full use of this platform to leverage its capacity building activities (i.e. technical information and training on responsible chemical / product management) both domestically and in other parts of the region.

A key activity in recent years has been to raise awareness, train and help spread the implementation of the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals. GHS – the global, unified system to enhance the protection of human health and the environment during the handling, transport and use of chemicals – specifies the information to be included on crucial documentation such as product labels and safety data sheets for effective chemicals management including emergency response. Over the past two years, ExxonMobil Chemical has trained a total of 98 people on GHS in Singapore. In Malaysia, the company has been involved in training around 25 regulatory officials, and a further 50 people in China through the Association of International Chemical Manufacturers.

In Singapore, ExxonMobil works closely on GHS issues with a range of stakeholders including the authorities, national chemicals body the Singapore Chemical Industry Council (SCIC), industry peers and others in the value chain. Training has been provided to both industry and government representatives.

Working with partners

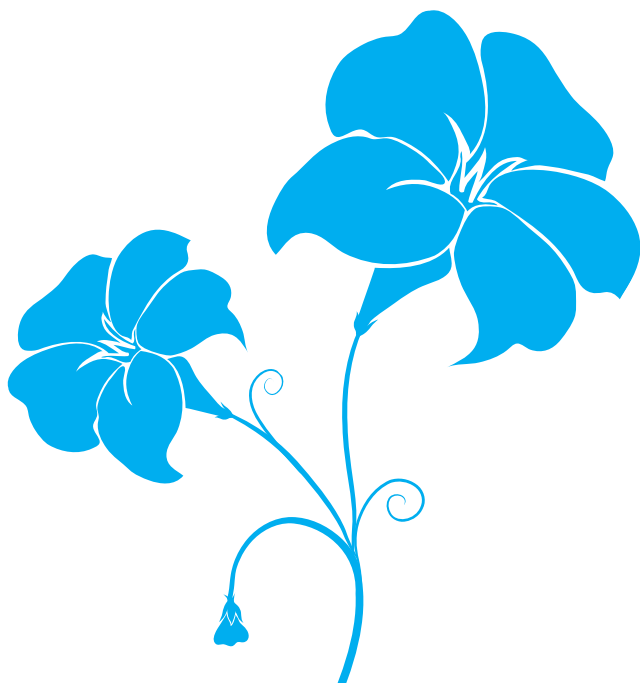
For example, the company cooperates with local regulators by holding training sessions to build GHS awareness up and down the supply chain as part of a five-day course on management of hazardous substances organized by the country's National Environmental Agency.

On behalf of the SCIC, ExxonMobil conducts two-day training courses to help raise industry understanding and promote GHS implementation. Also working with SCIC, a company expert chaired the work group that developed the Singapore GHS Guidebook – another tool to assist local industry with implementation.

Together with government representatives the company is actively involved in a work group tasked with development of a national standard for Singapore that will aid implementation both of the GHS and the UN's recommendation on the Transport of Dangerous Goods.

Outside Singapore, the company shared its experience at a GHS workshop in China organized by the Association of International Chemical Manufacturers. ExxonMobil Chemical also provides feedback on GHS via AICM where opportunities exist.

Moreover ExxonMobil is already active in capacity building efforts for the Malaysian chemicals sector. The company has committed to work with the Chemical Industry Council of Malaysia to provide GHS training to industry once the Council's plans are finalized and rolled-out. It is also directly working with the Malaysian Department of Occupational Safety and Health on development of a national training module for GHS, and is involved in a multi-stakeholder working group to develop GHS into a Malaysian Standard.



MITSUBISHI CHEMICAL KEEPING SAFETY TO THE FORE IN INDIA

Internal capacity building is an essential part of the chemical industry's efforts to improve chemicals management. The activities and processes followed by Mitsubishi Chemical Corporation offer insight into one company's approach.

Mitsubishi Chemical holds an annual meeting of its group companies where it brings together employees from diverse locations to share experiences, expertise and information with the emphasis on chemical safety management activities. Participants are also encouraged to discuss their activities in the area of sustainable development including the social aspects.

The meetings are focused on Indonesia, China and India where the company has a range of manufacturing operations, and where it has identified the need to ensure safety goes hand-in-hand with the rapid growth being experienced in these countries. Everyone is urged to take the learnings from these meetings and, once back at their respective production sites, to translate them into concrete actions related to environment, health, safety and product stewardship.

The focus on safety in India, Asia's third largest economy, has clearly paid off for Mitsubishi's MCC PTA India (MCPI). The company experienced rapidly growing demand for polyester resins and fibers between 2001-'07 – over 10%/year on average. Nevertheless it logged just one reportable accident at its Haldia production site from 2000-2008, while accidents requiring medical attention fell from a high of 16 in 2001 to none in either 2007 or '08. And by end 2008, MCPI had gone for 2,265 days without a reportable accident.

Commitment is key

Such results cannot be achieved without a strong commitment to training and education. Every year, a schedule is prepared covering EH&S and fire fighting for both MCPI employees and contractors. This full-day training package covers a range of issues, from systems and procedures, to chemical hazards, hot work and hazardous waste management among others, and is tailored to address new management systems and accident statistics. In addition, MCPI carries out job-specific training, and safety induction training for all new employees.

Specialist safety training is held for contractors including a two-day training session for all contract supervisors before the annual maintenance shutdown.

The company is also supporting the establishment of a training and educational organization for its plant operators in India to ensure that EH&S issues are kept high on the agenda. Awareness raising and capacity building also extends to the local communities around Mitsubishi plants, both in India and elsewhere. Public meetings are organized both by MCPI, government agencies and others to ensure that people understand the potential hazard and safety management of chemicals used and produced at Haldia.

The meetings, which are always attended by the company's head of EH&S, cover a wide range of issues from the potential hazards of handling and bulk storage of chemicals on plant premises; to risk reduction and transport issues; and community awareness and emergency response.

SASOL REDUCING PRODUCT RISK

Sasol is primarily located in South Africa where 80% of its workforce, head office and most significant operations are based. South Africa is classified as a developing country with an economy in transition, so the majority of Sasol's capacity building activities and its business priorities have a strong domestic focus.

Several of the company's businesses manufacture chemicals that are high risk, high volume or products that can be misused, driving Sasol to develop specially tailored, product-specific capacity building programs for customers and other stakeholders. For example, the Sasol Polymers Chlor Vinyls division trains about 1,000 people a year on managing different hazardous chemicals, mainly (about 70%) sodium cyanide which is a high risk product used in South Africa's gold mining industry. Because of the extremely high toxicity of sodium cyanide Sasol provides detailed training programs for customers on its handling, use and disposal. Training materials include background information on the hazardous nature of liquid sodium cyanide, long term health effects, accidental release measures and disposal considerations.

Active awareness training

Another objective of the training is to create awareness with regard to Sasol's Policy on Sodium Cyanide which includes only delivering products to dedicated, approved storage tank facilities with trained personnel and under constant supervision, and mandatory training for all personnel involved with handling.

The company's expertise in dealing with hazardous chemicals has also been put to good use in other ways. For example, it has advised, supervised and coordinated the clean-up of an old mining site, not Sasol-owned, at the request of a local authority.

A second group business, Sasol Solvents, produces bulk commodity solvents which are transported by rail to the ports for export and by road to local customers.

This has proved to be another area where capacity building has had a real impact on raising awareness, reducing incidents and improving safety along rail routes and roads. Due to the high volumes being transported and the commensurate risk of incidents, Sasol Solvents has an active awareness training program, including an annual roadshow, which explains the hazardous properties of the products during transportation, handling, storage and disposal. Under this program, the route the product will typically travel is followed in order to identify the different stakeholders that could be exposed to a product in the event of an incident. This can involve a range of parties from the transporters themselves, to local authorities, emergency services and clean-up service providers.

Another activity that Sasol considers an important step to improve chemicals management worldwide is its work on the Globally Harmonized System (GHS) for Classification and Labelling of Chemicals. For the past three years, Sasol experts have been advising South African government representatives on the implementation of GHS through the national chemical industry association, the Chemical and Allied Industries Association. Sasol also participates in the UN Subcommittee of Experts on the GHS, representing the South African Department of Trade & Industry and has taken on the role of vice chair for 2009-2010.



SHELL CHEMICALS CHEMICALS MANAGEMENT THROUGH THE VALUE CHAIN

Any chain is only as strong as its weakest link, and that maxim applies equally well to the chemical industry value chain. Capacity building can be an effective means of strengthening those links, and Shell has gone a step further than most with its promotion of an isocyanates product stewardship program - even though it does not make isocyanates. It has taken this route because its polyols customers use isocyanates in the manufacturing process for slabstock foam and Shell saw an opportunity to contribute to lifting EH&S standards in the polyurethanes sector.

The Walk the Talk program, based on guidelines developed by the European polyurethanes industry body ISOPA, raises awareness of the hazardous nature of isocyanates like toluene diisocyanate (TDI), and promotes improvement in their proper use and handling.

Experience sharing in developing markets

Shell has been at the forefront of expanding the scope of engagement to developing markets, using experience gained from the initial rollout of the program to take the information and messages to audiences in many different parts of the world including India, the Philippines, Brazil and Argentina.

In 2006, for example, Shell held a Latin America workshop where it introduced the Walk the Talk program to around 20 customers. The challenge of raising standards related to TDI hazards in customer facilities across developing markets can be significant, and bad practices also tend to be more extreme. Examples include personal protective equipment (PPE) not being worn in foaming areas – leaving workers directly exposed to TDI emissions – and empty contaminated TDI drums being used to store water and grain. Many problems arise because of low awareness of the hazards of working with TDI amongst smaller companies.

As part of Shell's global campaign the ISOPA checklists and guidelines have been translated into a number of additional languages. The information is generally backed up by site visits by Shell sales and technical support staff who target the people actually handling the chemical, as well as engaging with the customer's management team.

While this initiative represents a significantly higher level of engagement on TDI product stewardship, Shell Chemicals applies a more systematic and regular auditing process to customers purchasing its products, such as on-site appraisals of off-loading and storage facilities. The Shell Chemicals HSSE [health, safety, security and environment] Risk Appraisal for customer bulk reception facilities is intended to show whether or not a customer's unloading facilities meet Shell's internal requirements regarding the handling of its products. Trained staff carry out appraisals using product-specific checklists with mandatory requirements which, if not met, means product will not be supplied.

For example, as a result of the customer appraisal program during 2007/08, Shell suspended solvents business with a number of Latin America customers that did not have a written unloading procedure that met requirements. Subsequently 15 customers in Brazil and three in Argentina made the necessary changes for sales to resume. Similarly sales were suspended to 26 customers in Brazil and two in Argentina that did not have an emergency shower/eye-wash close to discharge facilities; again, sales were resumed once the requirements were implemented.

Working with logistics providers to implement safety programs and training is also a priority in developing markets. For example, in certain countries in the Asia Pacific region, issues arose with the low quality of reconditioned drums, which led to minor leaks during drumming and storage. By working alongside its suppliers, sharing and discussing best practices, the occurrence of leaking drums has been virtually eliminated.

“ There are always things to learn and ways to improve and the Shell [Walk the Talk] campaign has helped to raise awareness and bring these issues to the surface.”

Praduman Patel - Joint Managing Director - Sheela Foam, India

SUMITOMO CHEMICAL TECHNOLOGY TRANSFER HELPS COMBAT MALARIA THREAT

While the threat from malaria remains a huge challenge – some 85% of the estimated 881,000 people who died from malaria in 2006 were children under 5 years of age, according to a recent World Health Organization (WHO) report – access to malaria control interventions is resulting in real progress. In Africa the use of long-lasting insecticidal nets (LLIN) is one of the main tools that have helped cut deaths in some countries by 50% or more between 2000 and 2006-'07.

Special campaigns ensure proper use

Roll-Back Malaria (RBM) is a global partnership between WHO, the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP) and the World Bank.

In response to RBM requirements Sumitomo Chemical has scaled up production of its LLIN, the Olyset® net, and implemented a cost reduction program. Technology transfer is an important part of the chemical industry's capacity building activities, and Sumitomo Chemical has provided a royalty free technology license for local manufacture in order to increase production capacity.

Technology transfer also leads to further cost reductions through improved management of production, quality and distribution and creates employment in the country receiving the transfer.

Campaigns and workshops organized or supported by Sumitomo in a number of countries in Asia and Africa are helping educate people on proper use of the Olyset® net through dissemination of safety information and directions for use. Regular meetings and audits ensure that local employees at manufacturing plants are also knowledgeable about the product and its manufacture.

The company also maintains consultants in a number of developing countries backed by technical advisors based in the UK.

The WHO fully-recommended Olyset® net involves a revolutionary technology enabling the product to remain effective in controlling malaria-transmitting mosquitoes for at least 5 years without the need for re-treatment.

“ The Olyset® model produces a vital public health product and simultaneously boosts economic development in Africa. This is truly an advance beyond aid, toward self-sustaining enterprise in the service of public health. It is a model that should be vigorously applied in other industries across the continent. ”

Dr. Ali Mohammed Shein - Vice President Tanzania

“ The transfer of this technology to Africa four years ago has reaped tremendous results and shows how innovative partnerships can produce sustainable benefits for public health. ”

Dr. Awa Marie Coll-Seck - Executive Director of the Roll Back Malaria Partnership.

Dr. Shein and Dr. Coll-Seck were speaking at the dedication of the new Olyset® net plant in Arusha, Tanzania, February 2008.



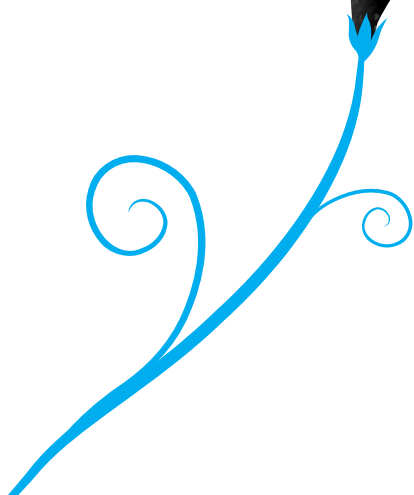
ARCH CHEMICALS CLEAN WATER: ESSENTIAL TO LIFE

The industry's diverse capacity building activities are by no means limited to the world's biggest chemical companies. And while the definition of small- and medium-sized enterprises (SMEs) varies from one part of the world to the next, this example from Arch Chemicals – a \$1.5 billion company – demonstrates that capacity building at the community level can help save lives by creating sustainable, life-enhancing systems that address vital health and environmental needs.

Arch is using its expertise in water treatment to help provide clean drinking water to people in developing countries from Ghana to Guatemala through the supply of water treatment systems that are economically, technically and socially feasible. The company for several years has provided funding, training and education via a non-profit group (New Forests Project) working in three Central American countries – Honduras, Guatemala and El Salvador.

The group has established "chlorine banks" in a number of poor, rural villages that are managed by buying cooperatives. The cooperatives receive regular advice and services from a team of local plumbers who travel round the villages through jungle-shrouded dirt roads as circuit riders, helping the local water boards maintain their water treatment facilities. The plumbers receive fees for their work, which provides a profit incentive and contributes to the sustainable nature of the treatment systems.

Early on in the scheme, Arch experts visited Guatemala to provide product stewardship training to the plumbers. The training covers safe handling, usage and storage guidelines for the simple calcium hypochlorite feeders and the "dry chlorine" that they use. These systems are serving thousands of poor villagers, and they have significantly reduced water-borne illnesses and mortality in villages that typically drew drinking water from polluted local rivers and streams.



METHANEX ENHANCING TERMINAL OPERATOR SAFETY

Throughout Asia Pacific, Methanex staff work actively with local terminal operators, business partners and customers to achieve high standards of safety across the supply chain.

Starting in 2007, the introduction of the Chemical Distribution Institute's Terminal (CDI-T) audit standard at a number of Asia Pacific terminals was an important step forward in promoting safety performance and standards to a new level of excellence. CDI-T is a well-recognized global industry standard to ensure safe storage and transportation of bulk liquid chemicals that focuses on tank terminal management and operations. The CDI-T standard has been successfully applied in other regions where Methanex operates.

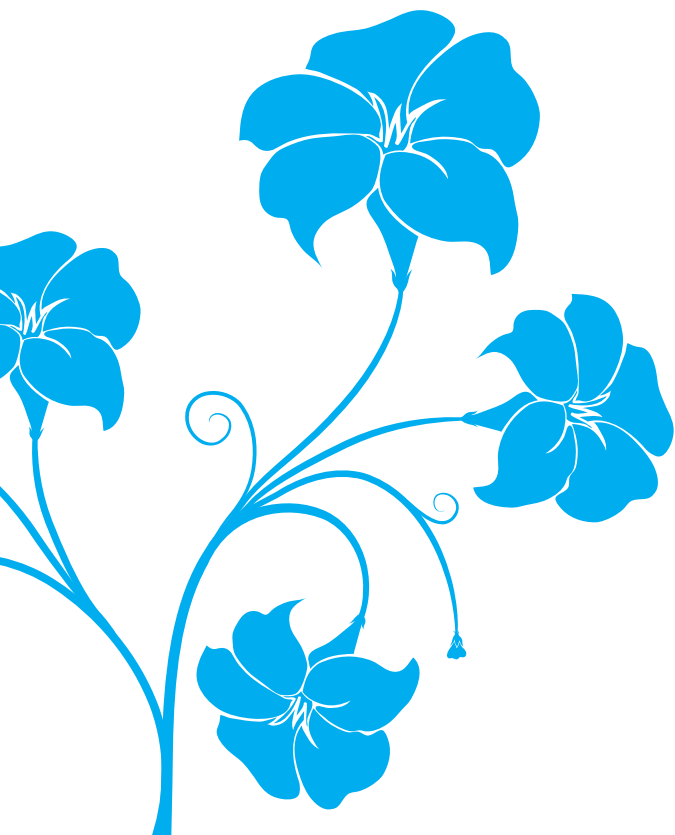
As well as co-funding the CDI-T audits with the customers or the terminal companies, Methanex' Asia Pacific team worked closely with terminal operators and their efforts led to the successful implementation of the CDI-T audit as well as follow-up improvements in seven terminals in China, Korea and Japan. In some instances, this was the first time the facilities had undergone a CDI-T audit and such an extensive external inspection.

Forming a safety communication network

The audit results highlighted key areas for improvement, prompting terminal operators to develop plans for better performance in EH&S protection, community awareness and emergency response. After each audit, Methanex' Asia Pacific team initiated a follow-up visit to explore and suggest improvement measures and facilitate implementation and knowledge exchange not only with Methanex but also among different terminals, forming a safety communication network. These improvements have further reduced business risks and have enhanced the terminals from a sustainability perspective.

Methanex believes the responsibility of safety lies mutually with the terminals and the vessels/ barges using these terminals. To this end, in 2008 Methanex held a large-scale barge EH&S best practices seminar with customers, distributors, logistics service providers and customers' carriers in China's Jiangsu region where barging is the major form of methanol transport in Methanex' supply chain. The positive response sparked Methanex to plan re-runs in other regions of China and Asia Pacific countries, as well as a similar truck transportation seminar in the near future.

Methanex continues to work with its Asia Pacific partners to implement the CDI-T standard audit program in both new and existing terminals with which it does business.



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The International Council of Chemical Associations (ICCA) is the worldwide voice of the chemical industry, representing chemical manufacturers and producers all over the world. In 2007, turnover for the global chemical industry was estimated to reach around US\$3,180 billion. Companies affiliated with ICCA member associations account for around 65% of all chemical manufacturing operations. More than 45% of the value of the global chemical industry is traded, and over 35% of this world trade is intra-company in nature.

For further information on ICCA's capacity building activities, visit www.icca-chem.org

