

# SEMINAR ON CHEMICAL BURNS MANAGEMENT – STOPPING INCIDENTS FROM BECOMING ACCIDENTS



SEMINAR IN PROGRESS. SEATED ARE: DR. PARAG KULKARNI, DR. STEVEN JEFFERY, DR. SUNIL KESWANI, MR. R.R. GOKHALE AND MR. GREGOIRE BERRICHON.

ICC in cooperation with HSE Solutions Pvt. Ltd. (a member-company of ICC) organised a Half-day Seminar on **“CHEMICAL BURNS MANAGEMENT – STOPPING INCIDENTS FROM BECOMING ACCIDENTS”** on Friday, 26 May 2017. The venue of the Seminar was Hotel Tip Top Plaza, Thane, Maharashtra.

The seminar focused on industrial chemical accidents and their consequences, on traditional first Aid methods and the evolution of new innovative products as we believe in empowering the employees through proactive safety measures eloquently put up by the Responsible Care initiative.

Mr. R. R. Gokhale, Secretary General, ICC welcomed the delegates. Dr. Parag Kulkarni – Gen Surgeon, Consulting Doctor in MIDC of Tarapur and runs the Aashirwad Hospital; Dr. Steven Jeffery – Plastic Surgeon Specializing in Burns, Dr. Sunil Keswani – Plastic Surgeon, Director of The National Burns Center, Airoli, Navi Mumbai and Mr. Gregoire Berrichon – Risk Assessment Expert, made presentations at the Seminar.

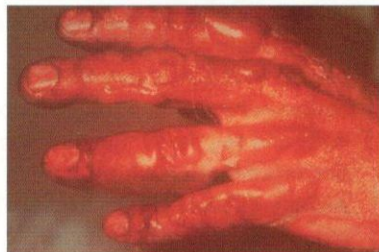
## CHEMICAL BURNS:

Statistically Chemical burns account for only 3% of the total burns (Thermal & Electrical). Yet they account for the highest no of fatalities. Some of them severely handicap the person's physiological functions. For instance corrosive chemicals on the knees (which often happen in the cement industry) can affect the normal functioning of the leg or corrosive chemical on the elbow or wrist joint can hamper the straightening of the arms, or on the tongue which happens when lab technicians inadvertently suck the chemical from the pipettes, can slur their speech. These are some of the debilitating effects of chemical burns. This definitely leaves psychological impact not only on the person affected but even the other employees in the organization.

**1 Highly concentrated sulphuric acid cannot be treated effectively with water as it creates an exothermic reaction and thereby cause blisters if water is used as shown in pic 2 where the persons decontaminated immediately with water.**



1. ABOVE A 38YR WELDER WITH SULPHURIC ACID BURNS



2. EXOTHERMIC REACTION WITH WATER



3. WORKER WITH A CAUSTIC SPLASH IN THE EYE



4. HF BURN WHICH LED TO AMPUTATION OF FINGER

**2 Caustic Soda is even more harmful than sulphuric acid as it saponifies the soft tissues of the eye and penetrates deep inside as seen in the pic**



above often causing corneal opacification.

**3 Hydrofluoric acid is not only corrosive but also very toxic. It chelates the calcium from the body and requires immediate decontamination with water and injection of calcium gluconate. However often in case of HF splashes despite use of water the chemical reaction doesn't stop and internal damage to the organs can continue.**

**4 Phenol is again corrosive and toxic as well. Highly concentrated Phenol can directly attack the Kidney, liver and affect the functioning of the vital organs leading to fatal consequences. Fortunately Diphoterine® solution works amazingly well on all the above chemicals.**

In India several Industrial zones are located in remote areas and lack basic safety standards. Even hospitals are located several kms away from the plants and often the treatment of the patient is delayed leading to severe complications in patients. ICC has been working tirelessly to create awareness to

improve the health and safety of employees.

### IS THERE AN EFFECTIVE FIRST AID FOR CHEMICAL BURNS?

**Prevor** offers a polyvalent amphoteric compound which works on the 6 corrosive chemical reactions i.e. Acid, Alkalis, Chelators, Oxidisers, Solvents & Reducers. This compound called **Diphoterine®** solution is a 6 sided molecule which has the capacity to encapsulate and trap the chemical inside it

In India Dr Kulkarni has done an extensive study using Diphoterine® solution on several chemicals from various industries in Tarapur MIDC.

He has had patients with severe Bromine, Phenol, Caustic and Sulphuric acid burns and has excellent results using Diphoterine® solution

In the last 2 years Dr Kulkarni had 172 cases of chemical burns out of which 135 were treated with Water and 37 with Diphoterine.

#### HERE ARE SOME RESULTS:

	WATER	DIPHOTERINE
No of cases treated with:	135	37
Treated after an avg time of:	10 mins	18 mins
Workloss:	11 Days	2.8 Days
Assessment of pain on a scale of 10	Reduced from 5.6 to 4	Reduced from 6 to 2.3
Improvement in visual acuity of patients	21%	86%
Note: 5 patients where only water was used developed corneal complications.		

and chelate it so that the chemical reaction is stopped. For instance if Diphoterine® solution comes in contact with an acid the base side of the molecule attracts it and chelates it and thereby deactivate the corrosiveness of the acid.

The above results show how effectively Diphoterine works as compared to water. Dr Kulkarni is continuing his study in Tarapur.

For any further information/on-site risk assessment, please contact Ratna Mehta : +91 9920320895