





Routes of Entry

The way a harmful material enters the body is called the "route of entry". The three routes of entry are skin absorption, inhalation, ingestion. Taking a toxic material into the body by any of these routes of entry can result in acute or chronic effects.

1. Skin Absorption

- 2. Inhalation
- 3. Ingestion

















How do you know whether you are being exposed to respiratory hazards at work?

Your body has several built-in mechanisms which can act as warning signals when hazards are present:

- Smell
- Sneezing
- Coughing
- A runny nose



Safe Ways Of Handling Chemicals

General rules for handling chemicals

- –Do not return chemicals to their original packaging. ...
- -Keep chemical containers closed. ...
- -Never use a wrong or an unmarked reagent. ...
- Never put spatulas, stirrers or other objects into a storage container for chemicals

BASIC MEASURES FOR SAFE CHEMICAL HANDLING

- Never eating/drinking/smoking while using hazardous chemicals
- Using always the appropriate Personal Protective equipment (PPE)
- Labeling and identification of hazardous chemicals
- Never smelling or tasting a chemical as a means to identify it
- Safe storage of hazardous chemicals
- Containment and drip trays where spills may be expected
- Availability of Material Safety Data Sheets (MSDS) and chemical risk information at work
- Keeping containers closed when not in use
- Keeping flammable chemicals away from ignition sources
- Avoiding contact between incompatible materials
- Cleaning up spills, proper waste disposal and good housekeeping

HANDLE CHEMICALS SAFETY:

Pay special attention to safe handling practices during-

- Transfer of chemicals from large containers to smaller ones;
- Preparation of chemical recipes, including dilution of acids;
- Transfer of chemicals from the chemical store to the production area;
- Dosing of chemicals



GOOD PRACTICE OF CHEMICAL USE



TRANSPORTATION OF CHEMICALS

TRANSPORTATION OF CHEMICALS

Safety during chemicals transportation is extremely important

- Transportation involves the risk of injury or loss to public and/or crew, Environmental pollution, Economic loss and of company image loss etc.
- Crew members engaged in transportation of hazardous chemicals must have a certain minimum level of education and imparted training.
- It should be endorsed in their driving licence or a special license or certificate should be issued to the trained drivers.





Types of Transportation of Chemicals and Waste



External

Internal

 Transport of chemicals and chemical waste to/from your company.

- Receiving and unloading of chemicals
- Internal transport and conveyance of chemicals and waste, e.g. transport to warehouse, from warehouse to production areas, within production areas, etc.

THE TRANSFER OF HAZARDOUS CHEMICALS:

Proper equipment is used for transfer of chemicals including pumps, stands, and funnels.

Metal flammable material containers are bonded and grounded/earthed.

Drip trays / pans are placed under dispensing containers during chemical transfer.

Dispensing of chemicals occurs on impervious surfaces such as epoxy-treated chemical resistant flooring.

Chemical leaks or spills are cleaned up immediately according to SDS instructions.

All workplace containers are properly labeled.





INTERNAL TRANSPORTATION OF CHEMICALS: PROCEDURES AND PRACTICES

- Chemicals transported by forklift truck should be travelled on clearly marked passageways having adequate width to reduce the possibility of collision and spillage
- Avoid shaking hazardous chemicals to prevent leaking due to over volatilization
- Leak-proof equipment should be used when transporting small amounts of hazardous chemicals





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DISPOSING OF CHEMICAL

DISPOSING OF CHEMICAL WASTE

Empty chemical containers can pose a safety risk and health hazard when not disposed of properly. To avoid potential dangers, you should follow these basic principles:

- Remove empty chemical containers from the store and work area
- Safely store the containers in a separate area of your Factory
- Rinse the container before disposing, which may allow you to gain more chemicals out of the same container
- Do not pour or mix different waste chemicals in the same waste container or barrel
- Ensure that the rinsing water, if not used in the tannery, is discharged to the effluent treatment plant
- Return the empty chemical containers back to the supplier to refill and reuse if possible
- Collect and dispose of waste chemicals according to local regulations and the SDS



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SECONDARY CONTAINMENT AS A BEST PRACTICE \checkmark



OTHER ENGINEERING CONTROLS



Fume hood



Overhead sprinklers



Proper storage of explosive



Chemical Spill Management

Chemical Spill Management

To contain any spillages, following measures should be incorporated:



- Spill control kits: This should contain sawdust, sand or any other absorbent container to absorb the liquid spill
- broom, shovel and gloves
- an empty container marked "Hazardous Waste"
- a trolley to keep these items (for taking them quickly to the spillage place)
- Refer to Safety Data Sheet (SDS) and manufacturer's instructions for corrective action and if PPE is needed

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Example

শিপল কিট (Spilt Kit) কি? ঃ- জরুরী ব্যবহারের জন্য ইহাতে বিভিন্ন ধরনের (Absorbent Materials) শোষক উপকরন (যেমনঃ এবজরবেল্ট প্যাড, Pillow (বালিশ), Beam ইত্যাদি), পরিস্কার ও ক্যামিকেল নিউট্রালাইজ (নিস্ক্রিয়) করার উপকরন সমুহ একত্রে সংরক্ষিত থাকে।









০৮। পন্য হ্যান্ডলিংয়ের পরে নিজ এবং কর্মক্ষেত্র পরিস্কার রাখুন। সম্পূর্নরুপে সাবান দিয়ে পরিস্কার করুন।

০৯। নিমু লিখিত জরুরী ব্যবস্থাপনা এবং যন্ত্রপাতি সম্পর্কে জেনে নিন এবং নিরাপদ থাকুন।

(ক) বহিনিৰ্গমন কাৰ্যপদ্ধতি

(খ) জরুরী সংবাদ প্রেরন কার্যপদ্ধতি

(গ) অগ্নি এবং ক্যামিক্যাল স্পিল (Spilt) নিয়ন্ত্রন কার্যপদ্ধতি



(ঘ) জরুরী চিকিৎসা সহায়তা গ্রহন ও ক্যামিকেল দূর্ঘটনার ক্ষেত্রে করনীয়

(পন্য হ্যান্ডলিং এর সময় মোবাইল ফোন ব্যবহার করবেন না)

SPILL KITS

	PICTURE
Absorbent Socks	
Absorbent Pillows	

Spill Kits

Nitrile Gloves



Safety glasses



SPILL KITS





- <u>9</u>14





Chemical Spill Kit

DESCRIPTION PICTURE

120 BIN



Description

Picture

Chemical/Oil/Water Absorbents Powder Product Name: Magic Monkey . One Kg magic monkey absorbents powder is able to absorb 3.65 Liter Chemical/Oil





VIDEO: SPILL KITS

SPILL KITS



Emergency Response Plan (ERP), Accidents & Spills Remediation Plan:

- A written, up-to-date Emergency Response Plan for the facility (covering all workplaces) is essential. It should include detailed instructions on how to evacuate the building, contact names/information for individuals in charge of the evacuation procedure.
- Primary and secondary escape routes with simple instructions should be posted at significant spots, at entrances and near elevators etc.
- Emergency Response Leaders should be assigned specific duties, such as verifying that all workers have been evacuated.



Emergency Response Plan (ERP), Accidents & Spills Remediation Plan:

- Disabled workers and those with a history of certain medical conditions should be assigned an Emergency Response Leader to guide them to safety.
- Stairways should be kept free of materials that could block or hinder an evacuation process.
- Regular fire drills should be conducted to identify problems before an actual fire occurs and based on these identified problematic areas, work a corrective and preventive action and implement them. Drills should be treated as if they were an actual emergency.
- Important telephone numbers such as emergency, fire department and internal Emergency Response Leaders should be posted close to every telephone.

In addition to the Emergency Response Plan:

- Maintain an emergency shower and eye wash station for removing chemicals that may contact the skin or eyes.
- Keep a first aid kit that is clearly marked, easily accessible and protected against dust and water.
- The kit should include:
- o An inspection tag to document monthly checks

