Oriental Logistics® 東方物流控股有限公司
Oriental Logistics Holdings Company Ltd.

C H E M I C A L S

A short lesson about the impact of Chemicals to your body

General

All of you might come to a situation where you are confronted with the handling of especially dangerous chemicals.
This short lesson is by no means comprehensive but instead it is meant as a reminder to handle chemicals with care and to wear appropriate protections against harmful chemicals while handling them. *Treat all chemicals with respect!*

Chemicals are unpredictable, complex and dangerous. It's important to learn about chemicals and the protection that you need, to be safe.
Oriental will conduct some basic training in the course of this year relative to the handling of chemicals.
However, you are advised to widen your knowledge yourself as well which I would consider as increasing your general knowledge. Especially the study of the IMDG Code and the Hong Kong Dangerous Code should be a part of your knowledge. (See attached)

Types of chemicals

Basically there are four types of chemicals. Let's have a look at what they are:

- **Toxic agents**.
  These are chemicals that are poisonous to you, and can act upon the body very rapidly. Hydrogen sulfide and cyanide are examples of toxic agents.

- **Corrosives.**
  This type of chemical is usually an irritant. Corrosives can damage your body by burning, or inflaming body tissues. Examples of corrosives are chlorine, hydrochloric acid and battery acid.

- **Flammables.**
  Flammables are the chemicals that burn without much difficulties. They may explode or burn if sparks, flames or other ignition sources are around. Examples are gasoline, benzene and ethyl ether.

- **Reactives.**
  Reactive chemicals are those that require stability and careful handling. Some of them can explode or react violently if the container is dropped or hit. Nitroglycerine is an example of a reactive chemical.

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Remark:
Please study the below mentioned IMDG codes and equivalent Hong Kong DG codes.

Effects of Chemicals on the Body

Chemicals can result in health hazards to different parts of your body, including local, systemic, acute and chronic health effects. Toxicity of chemicals is dependent on the level of exposure, concentration of hazardous chemical, the period of contact time, route of entry and state of the chemical physical form.

- Local effects occur when the hazardous material comes into contact with or enters the body.
- Systemic effects occur inside the body once a hazardous agent has entered the body. In other words due to its dangerous nature it might effect the whole body.
- Acute effects are usually immediate, obvious, short-term responses if in contact with hazardous material.
- Chronic effects develop over time with symptoms developed years after the exposure occurred. Chronic conditions can result from a short exposure, or from repeated contact with a substance or work process

Protecting the Skin

Your skin is the largest organ of the human body and is requesting a substantial protective cover. The skin is the major route of entry for hazardous substances in the workplace, if not proper and protective measures taken because:

- Chemicals can penetrate into healthy skin and cause dermatitis and damaging skin effects.
- Chemicals could result into skin diseases such as eczema, irritation and inflammation of the skin.
- Chemicals in liquid form can be absorbed into the skin.
- Chemical dusts can also enter into the skin by sweat.
- Some Chemicals can penetrate your skin without creating any feelings, while some can cause rashes and others can burn your skin.

Safe Chemical Handling

Injuries to the hand and fingers are one of the most commonly injuries at the workplace and on most occasions could have been easily avoided with basic preventive measures!

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There are 3 basic rules that must be observed to ensure safe chemical handling:

- *Always handle chemicals with caution and don't take short cuts*
- *Try to minimize direct contact and wear adequate protective gear*
- *Remember: Prior to the handling of chemicals check your protective outfit especially wear G l o v e s !!!*

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DANGEROUS GOODS CLASSIFICATION

HONG KONG CATEGORY & IMCO CATEGORY

Signs	Class	HK CAT	Description
	1	1	Explosive substances or articles used to produce explosions
	2.1	2	Flammable gas
	2.2	2	Non-flammable, non-toxic gas
	2.3	2	Toxic gas
	3	5	Flammable liquids
	4.1	8	Flammable solids
	4.2	9	Substances liable to spontaneous combustion
	4.3	6	Substances that in contact with water emit flammable gases
	5.1	7	Oxidising substances
	5.2	7	Organic peroxides
	6.1	4	Toxic substances
	6.2	4	Infectious substances
	7	--	Radioactive material (CATEGORY I)
	7	--	Radioactive material (CATEGORY II or III)
	8	3	Corrosive substances
	9	10	Miscellaneous dangerous goods and articles