

GOVERNMENT CHEMIST LABORATORY AUTHORITY

CHEMICAL HAZARD IDENTIFICATION AND COMMUNICATION

Supervisor's Training



OUTLINE

- ✓ Introduction
- ✓ Ways of identifying and communicating Hazards
- ✓ Conclusion

1. INTRODUCTION

- ✓ Chemical Hazard Identification And Communication the process of identifying and communicating potential hazards and risks associated with chemicals and other hazardous materials in the workplace.
- ✓ It is of paramount important due to the fact that protect people from injuries and illnesses associated with using hazardous chemicals in workplace
- ✓ Chemical Hazards are communicated through training on specific chemicals that employees on how to use the safety data sheets (SDSs) that come with every chemical, warning signs and proper labeling of containers.

2. WAYS OF IDENTIFYING AND COMMUNICATING HAZARDS

- ✓ Five primary ways of identifying and communicating chemical hazards in the workplace;
 - Chemical labels
 - Safety data sheets (SDSs)
 - Warning signs.
 - Colour and Numbers
 - Classes of chemicals

A. HAZARDOUS MATERIAL LABELLING

- All chemicals in the workplace must have labels. The label should contain the identity of the material, appropriate hazard warnings, and the name and address of the manufacturer, importer, or other responsible party
- Labels must be legible and in English. Labels in a second language may be added as long as the English label is present.



A. HAZARDOUS MATERIAL LABELLING...

✓ Information found at the label of the chemical container:

❖ Words (maneno)

❖ Symbols (Alama)

▪ (Chemical name), Jina la kemikali

▪ (Direction for Uses) Matumizi yake,

▪ (Symbols), Alama

▪ (Manufacturer), Jina la mtengenezaji

HYDROCHLORIC

Acid Cleaner

A powerful acidic cleaner formulated to remove rust, lime scale and cement deposits from most surfaces, harmless to paint finishes.

Recommended Uses:
Removes cement and plaster from building equipment, cement mixers and lorries, tools and brick facing.

Caution: Do not use on chrome fittings.

Directions for Use:
Dilute up to 1 part to 8 parts water depending on level of scale and algae, use neat on rust staining.
HYDROCHLORIC ACID 32%
UN No.1789 EC No. 231-595-7

HEALTH & SAFETY AT WORK
Causes Burns Irritating to the respiratory systems
In case of contact with skin and eyes rinse immediately with water and seek medical attention.
In case of accident or if you feel unwell, seek medical advice immediately show this label or container.
Use in well ventilated area, wear safety clothing, gloves and eye/face protection.
Keep locked up and out of reach of children.

5 060193 890531 >

BATCH No:13556
DATE: 07.09.15

25 Litres

Chaucer Solutions Ltd
Esport Farm Ind Park, Ellisley Road, Gt. Gransden, Beds SG19 3AS
Tel: +44 (0) 1767 677445 Fax: +44 (0) 1767 677655
email: sales@chaucersolutions.co.uk web: www.chaucersolutions.co.uk

CORROSIVE

B. WORKPLACE WARNING SIGNS

- Warning signs (such as pictures and symbols) may be used to portray hazard/obstacle or condition requiring special attention in a workplace.
- Addresses physical hazards such as flammability, compressed gases, explosives, organic peroxides, oxidizers, unstable reactive agents, and water-reactive chemicals



C. SAFETY DATA SHEET (SDS)

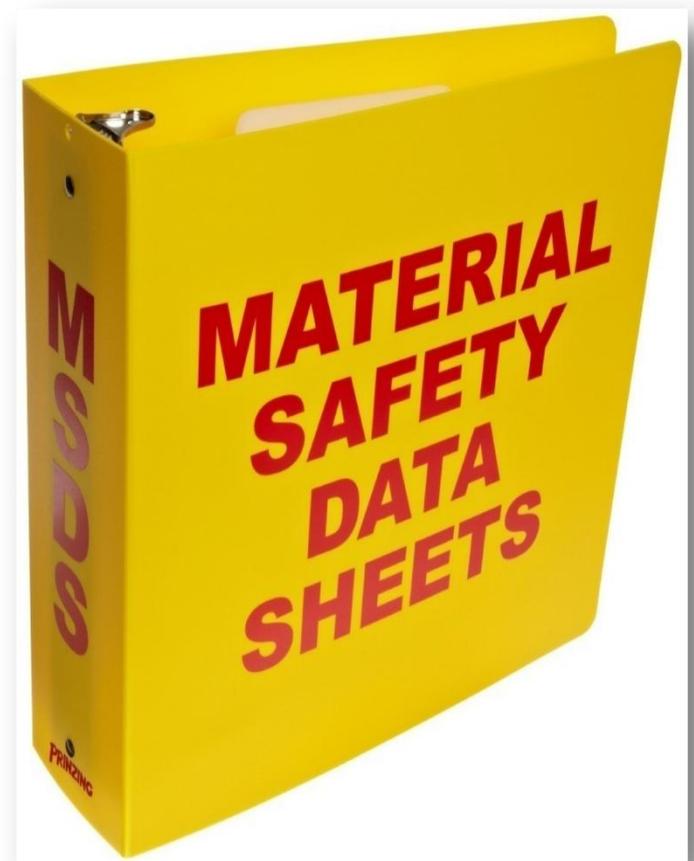
- ✓ A Safety Data Sheet (formerly called Material Safety Data Sheet) is a detailed informational document prepared by the manufacturer or importer of a hazardous chemical.
- ✓ The SDS includes information such as the properties of each chemical ; the physical, health and environmental health hazards, protective measures and safety precautions for handling, storing, disposal and transportation the chemicals.
- ✓ The information contained in the SDS must be in English (Although it may be in other languages as well)

SAFETY DATA SHEET (SDS)...

- **It provides information on:**
- Identification: for the product and supplier.
- Hazards: physical (fire and reactivity) and health.
- Prevention: steps you can take to work safely, reduce or prevent exposure, or in an emergency.
- Response: appropriate responses in various situations (e.g., first-aid, fire, accidental release).

SAFETY DATA SHEET (SDS)...

- Are to be provided by Supplier's with all deliveries
- MUST be Accessible to EVERYONE in the workplace
- Must be current
- Must be made available to attending physician in the event of exposure



PART OF SAFETY DATA SHEET (SDS)...

- Product and Company Identification
- Hazard Identification
- Composition/Information on ingredients
- First Aid Measures
- Fire fighting measures
- Accidental release Measures
- Handling and storage
- Exposure control/PPE
- Physical and chemical properties
- Stability and reactivity
- Toxicological Information
- Ecological information
- Disposal Consideration
- Transport Information
- Safety posters
- Other information

D. COLOURS AND NUMBERS

- ✓ There are four colour which used to portray information about danger of a certain chemical.

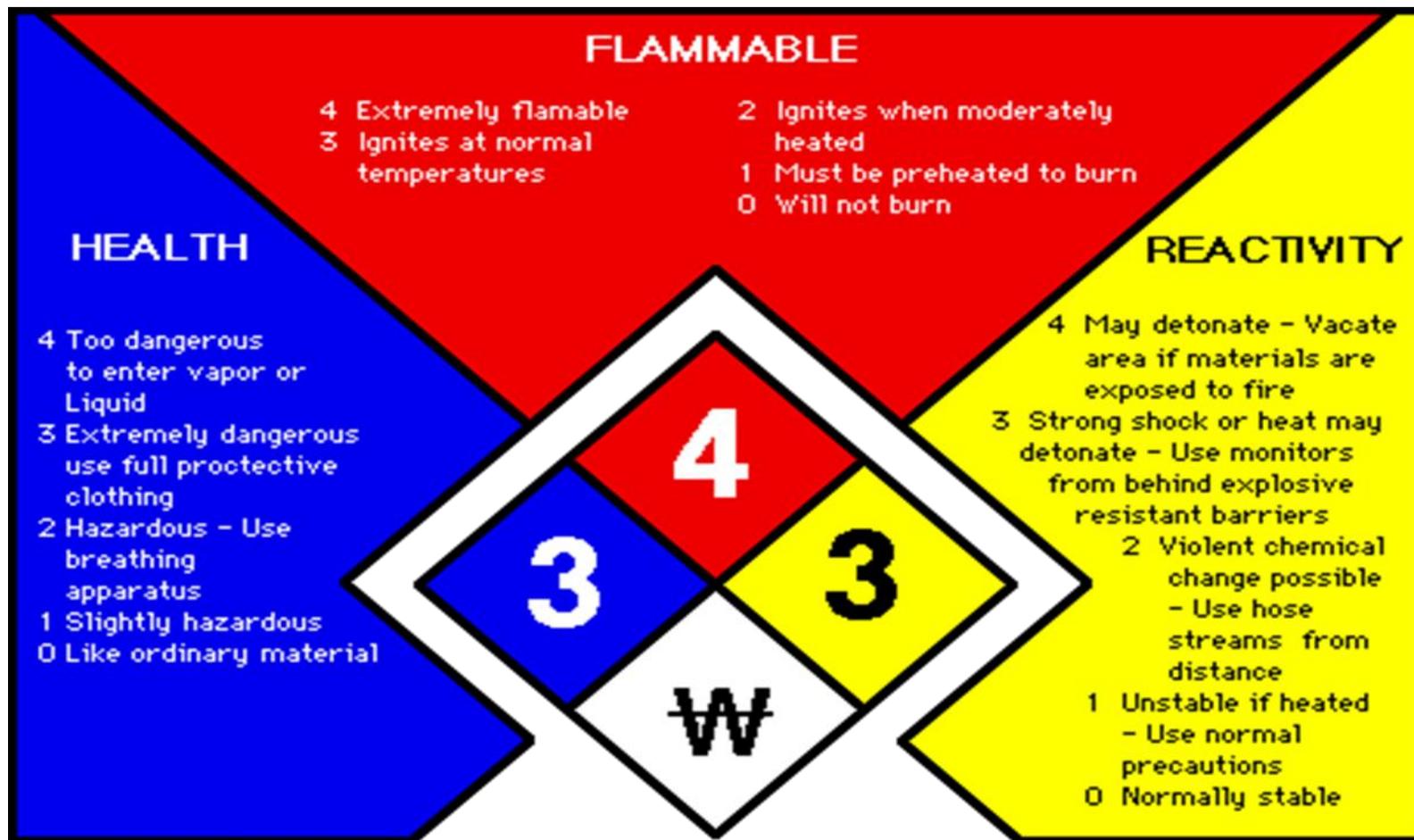
S.No	Colour	Meaning
1	Red (Nyekundu)	Flammable chemicals (Zinazowaka)
2	Yellow (Njano)	Reactivity (Uimara wake)
3	White (Nyeupe)	Special caution (Tahadhari za kipekee)
4	Blue (Bluu)	Health effect (Athari kwa afya)

COLOURS AND NUMBERS ...

- ✓ These colour accompany with number that identify degree of danger of a specific chemical which starts from 4 to 0

S.No	Colour Number	Meaning
1	Four (4)	Extremely dangerous (Madhara makubwa sana)
2	Three (3)	Very Dangerous (Madhara Makubwa)
3	Two (2)	Dangerous (Madhara)
4	One (1)	Slightly danger (Madhara kiasi)
5	Zero (0)	No harm (Hakuna madhara)

COLOURS AND NUMBERS ...



COLOURS AND NUMBERS ...

Example 1.

Ammonium Nitrate



Colorless crystals; odorless. Irritating to eyes/skin/respiratory tract. Also causes: difficulty breathing, acidic urine, systemic acidosis, and abnormal hemoglobin. Strong oxidizer capable of igniting combustible materials.

CAS No. 6484-52-2



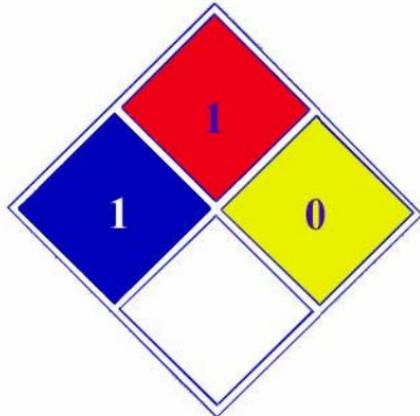
Nitrous Oxide

Colorless gas; slight sweet odor, inhalation of small amounts causes euphoria. Higher levels cause drowsiness, incoordination and unconsciousness. Contact with the compressed gas can cause frostbite. May present a reproductive hazard in women.

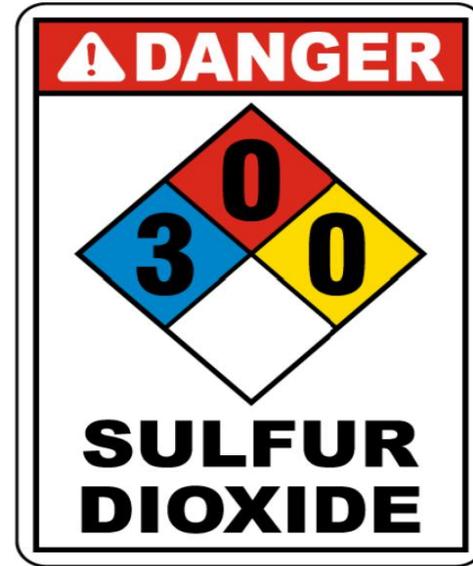


COLOURS AND NUMBERS

Example 2.



Sulfur



E.CLASSES OF DANGEROUS GOODS

- ✓ DG classification is the process of identifying intrinsic character of a certain hazardous materials.
- ✓ It's about getting the information needed for decisions about risk control to be made, so that chemicals can be produced, transported, used and disposed of safely.
- ✓ The Globally Harmonized System of Classification and Labelling of Chemicals (GHS) classifies chemicals by types of hazard. It helps you communicate information about hazardous chemicals on labels and safety data sheets.

CLASSES OF DANGEROUS GOODS...



CLASS 1-Explosives

CLASS 2-Gases

CLASS 3-Flammable liquids

CLASS 4-Flammable solids

CLASS 5-Oxidizers

CLASS 6-Toxic materials

CLASS 7-Radioactive materials

CLASS 8-Corrosive materials

CLASS 9-Miscellaneous dangerous goods

DANGEROUS- Indicates a mixed load of hazardous materials

CLASSES OF DANGEROUS GOODS...

S.No	Classes	Pictogram	Examples
1	Class 1 (Explosives(Milipuko))		Ammonium Permanganate Acetone Peroxide Ammonium Chlorate
2	Class 2 Compressed Gases (Gesi)		Anhydrous Ammonia Carbon Dioxide Propane
3	Class 3 Flammable Liquids (Kimiminika kinachowaka)		Ethy acetate Ethanol Methanol

CLASSES OF DANGEROUS GOODS...

S.No	Classes	Pictogram	Examples
4	Class 4 – Flammable Solids (Kemikali Yabisi zinazowaka)		Calcium Carbide Aluminium Phosphide Sulphur
5	Class 5 –Oxidizing substances (Kichochezi)		Hydrogen Peroxide Nitric Acid Magnesium Nitrate Potassium Dichromate Ammonium Nitrate
6	Class 6 –Toxic Chemicals (Sumu)		Ethy acetate Ethanol Methanol

CLASSES OF DANGEROUS GOODS...

S.No	Classes	Pictogram	Examples
7	Class 7 – Radioactive (Kemikali zenye mionzi)		Uranium
8	Class 8 – Corrosive (Kemikali zinazounguza/kuchun a ngozi)		Sulfuric Acid Caustic soda Hydrochloric Solution
9	Class 9 – Miscellaneous dangerous chemicals (Kemikali hatarishi)		Lubricants Glue Magnesium oxide

Other GHS Symbols

Health Hazard (Hatari kwa Afya)



- Carcinogenic effect (ugonjwa wa kansa)
- Respiratory track effect (Madhara katika mfumo wa kupumua)
- Reproductive system effect (Inaweza kuleta madhara kwenye mfumo wa uzazi na kusababisha watoto wanaozaliwa na mapungufu)
- Mutagenicity (Inaweza kubadilisha jeni)

Health Hazard- (Hatari kwa Afya)



- Cause irritation at the skin, eyes and respiratory track
- Examples; Sulfur, Sodium metabisulphite, AN

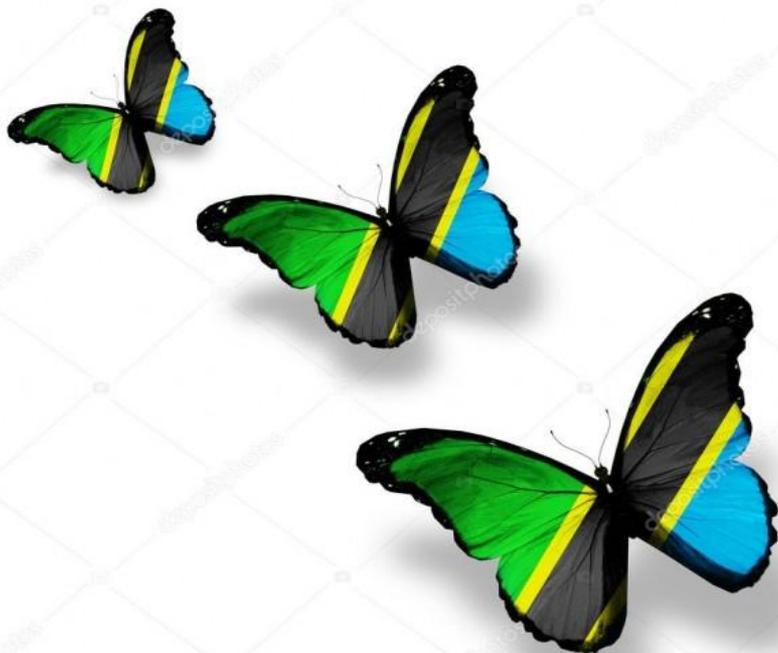
Environmental Hazard (Hatari kwa Mazingira)



- Adversely effect to aquatic plants and animals (Inaweza kuharibu mimea na wanyama)
- Adversely effect to air and water quality (Inaweza kuharibu hewa na ubora wa maji)
- Soil contamination (Inaweza kuharibu udongo)

CONCLUSION

- ✓ It ensure the hazards of chemicals found in the workplace are effectively communicated to employees so they can properly handle, store, and transport chemicals as well as properly protect themselves during normal use or upon accidental release.
- ✓ Effective implementation of this process will increase the level of safety at the workplace and reduce the rate of injuries/chemical accidents.



Thank you for your attention