



Understand the situation at hand
KNOW MORE ABOUT THE
CHEMICALS IN YOUR COMPANY

In this session...

- Finding information about your chemicals
- Globally Harmonised System (GHS)
- GHS labelling and markings
- Hazard and precautionary statements
- Using (material) safety data sheets (SDS)



ZDHC CMS reference

3.5.2 Safety Data Sheet Management

SDSs Readily Available for Every Chemical



ZDHC audit question example

Are hazardous chemicals categorised by their GHS classification as shown on its label and/or SDS? (CRR 1.1.4)



Common sources of information

- Symbols used for hazardous chemicals on labels of barrels, bottles, bags, boxes,...
- (Material) safety data sheets (MSDS or SDS)
- Manufacturer`s or suppliers technical data sheet
- Internet sources



Challenge

No uniform or standardised system



2-Naphthol (Xn) - Health Hazard (Irritant) - H335: May irritate the respiratory system. P280: Wear eye protection. P305+P351+P338: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2-naphtol (N) - Health Hazard (Irritant) - H335: May irritate the respiratory system. P280: Wear eye protection. P305+P351+P338: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2-naphtol (D) - Health Hazard (Irritant) - H335: May irritate the respiratory system. P280: Wear eye protection. P305+P351+P338: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2-naphtol (F) - Health Hazard (Irritant) - H335: May irritate the respiratory system. P280: Wear eye protection. P305+P351+P338: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2-naphtol (E) - Health Hazard (Irritant) - H335: May irritate the respiratory system. P280: Wear eye protection. P305+P351+P338: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Numbers according to the MSDS:
R-Phrases = R20/22, R 50, S-Phrases = S22, S24/25, S26, S36/37/39

Europe



METHYL ALCOHOL
CAS:67-56-1
DOT-ID:NA 1230

Flammable, Irritant

OSHA Table Z-1: A air contaminant. Approved canister mask for high vapor concentrations, safety goggles, rubber gloves.

MaxiSoft, Inc.

USA

CHEMICAL NAME _____ TM
MSDS# _____ DATE _____

HEALTH HAZARD (Possible Injury)

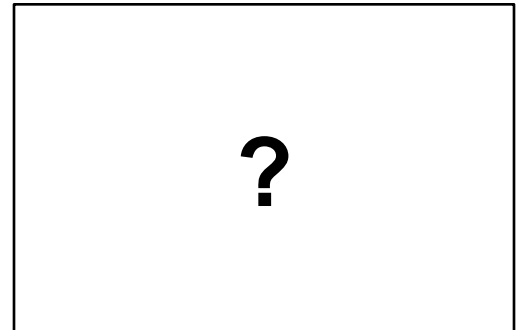
FLAMMABILITY (Susceptibility to burning)

REACTIVITY (Susceptibility to release energy)

PERSONAL PROTECTION
(Check all Protective Equipment the apply)

Safety Glasses Apron
 Face Shield Full Suit
 Splash Goggles Boots
 Vapor Respirator Dust Respirator
 Gloves Other _____

CONTACT MSDS



Movement towards unified systems

Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

- Chemical substances produced and traded globally.
- Their hazards same all over world
- Their description of hazards not to differ from country to another, when product same.
- International harmonisation of classification and labelling
- European Union: Published regulation for GHS implementation on December 31, 2008. The deadline for substance classification was December 1, 2010. For mixtures, the deadline for implementation is June 1, 2015 way forward.



Globally Harmonised System (GHS) – Objective

- Ensure information on physical hazards and toxicity available to improve protection of human health and environment during use, transport and handling
- Serve as basis for harmonising chemical regulations on national, regional and global level
- Facilitation of international trade



Globally Harmonised System (GHS) - Benefits

- At national level
 - Need for development of national programme towards safe handling, use and transport of chemicals
 - Adaptation of international methods/approaches on classification and labelling
- At global level
 - all countries can count on consistent and appropriate information on chemicals used and imported
 - Once information obtained scope for establishment a uniform structure for exposure control and protection of human and environment
- Better transparency



Globally Harmonised System (GHS) in force... (Examples)



European Union

- CLP Regulation (for "Classification, Labelling and Packaging") aligning European Union regulation with GHS in 2008

USA

- Product manufacturers to adopt standard by June 1, 2015, product distributors to adopt the standard by December 1, 2015

China

- GHS implemented since December 1, 2011

Vietnam

- GHS for products since March 30, 2014, for mixture since March 30, 2016

Globally Harmonised System (GHS)- Scope

- Uniform classification of chemical substances according to their hazards
- further corresponding harmonised elements of hazard communication in
 - markings
 - labels
 - warnings and
 - safety data sheets (SDS)



Globally Harmonised System (GHS)- Classification

Standard classification systems

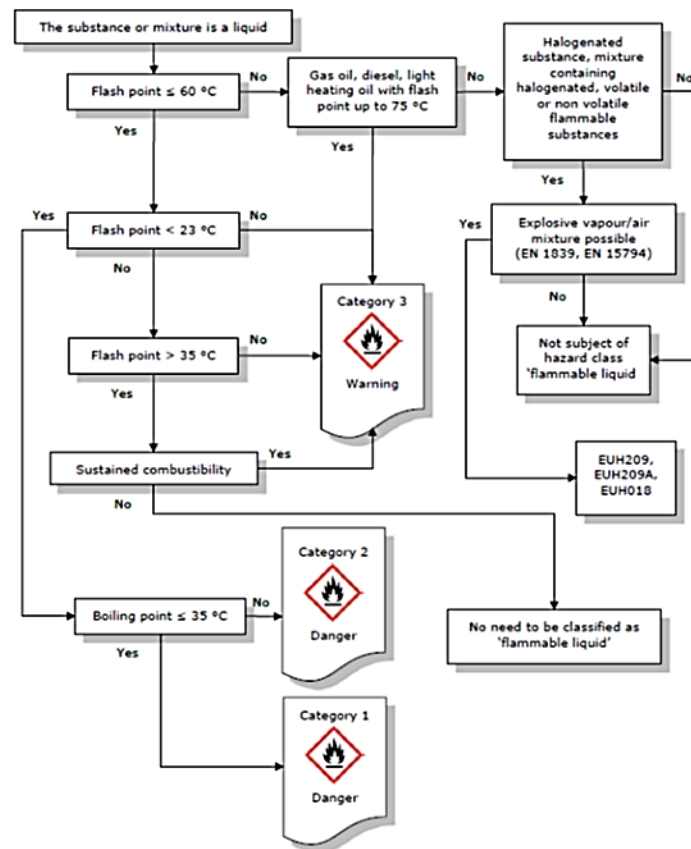
- **Hazard classes** along
 - Physical (P) – 16 classes
 - Health (H) – 9 classes
 - Environmental (E) Hazards – one class
- Each hazard classes divided into **hazard categories**
- Clear definitions and criteria for each hazard class and category



Globally Harmonised System (GHS)- Classification

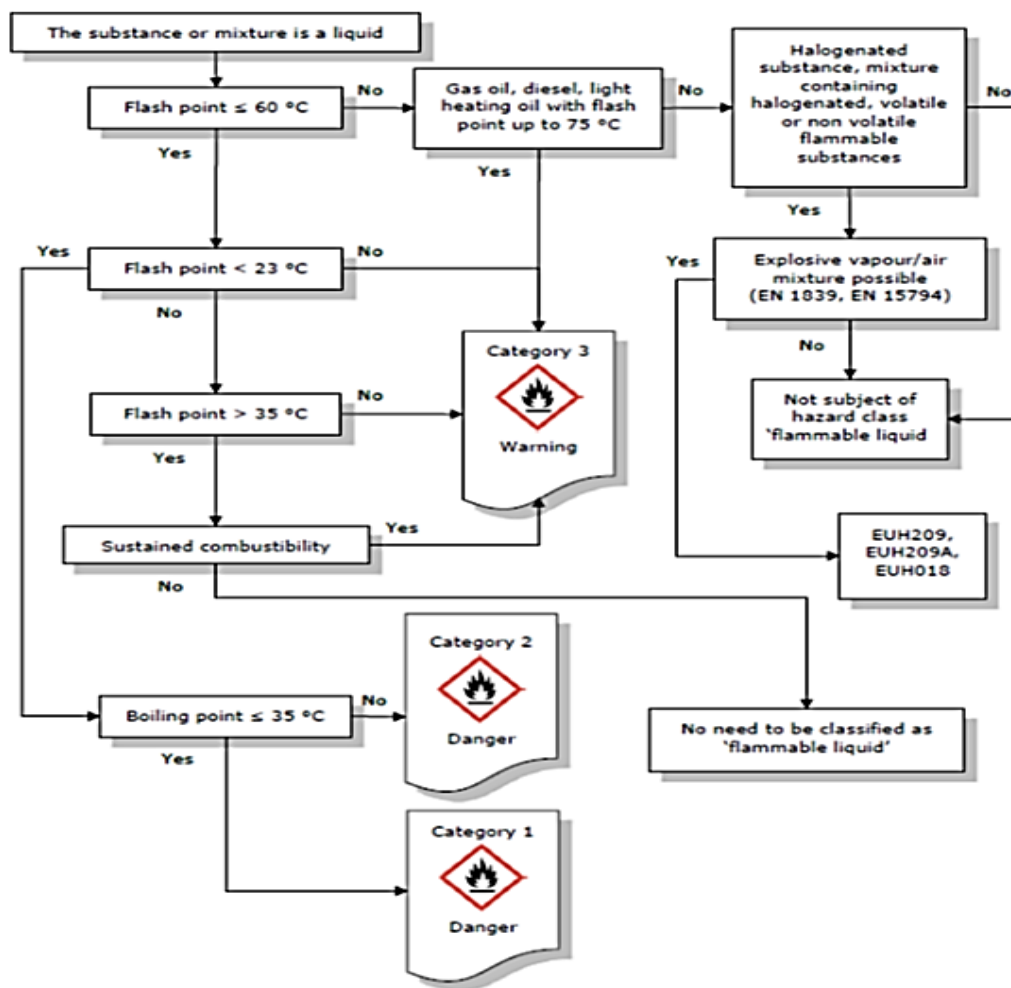
Example 1

- **Physical hazard**
 - **Hazard class 6:**
Flammable liquids
 - ✓ **Category 6.3.**
Flammable liquid and vapour
- **Criteria:**
 - Flashpoint $> 23\text{ C}^{\circ}$
and $< 60\text{ C}^{\circ}$



Globally Harmonised System (GHS)- Classification

Example 1
GHS decision
logic for
flammable
liquids



Globally Harmonised System (GHS)- Classification

Example 2

- **Health** hazard
 - **Hazard class 1** : Acute toxicity - swallowing
 - ✓ **Category 1.3.**: Toxic if swallowed
- **Criteria:**
 - Lethal dose: $50 \text{ mg/kg} < \text{Category 3} \leq 300 \text{ mg/kg}$ body weight

For further information:

Guidance on the Application of the CLP Criteria
(ECHA/REACH):

https://echa.europa.eu/documents/10162/13562/clp_en.pdf

Standard chemical hazard symbols as per GHS



GHS 01
Explosive



GHS 02
Flammable



GHS 03
Combustible



GHS 04
Gas under pressure



GHS 05
Corrosive



GHS 06
Toxic



GHS 07
Irritant



GHS 08
Carcinogenic



GHS 09
Eco-toxic

What has changed?



A new pictogram for health hazards, particularly used for substances with CRM properties:
C...Carcinogenic
R...toxic to reproduction.
M...Mutagenic

EU earlier



Characteristics: Orange square with black pictogram.

A new pictogram "gas cylinder" to identify all gases under pressure

GHS



Characteristics: Diamond with red rim and black pictogram.

New!

New!

New!

Directly relating old symbols to new ones is not always possible.

A new pictogram "exclamation mark to identify different properties of chemicals hazardous to health"

- Irritant to eyes.
- Irritant to skin
- Sensitizing when in contact with skin

Harmonised labelling - GHS and transport pictograms



Hazard classes	Old EU hazard symbols	GHS pictograms	Transport pictograms
Explosives			
Flammables			
Oxidisers			
Corrosives			
Acute toxicity			

Elements of GHS standardized labels



Symbols (hazard pictograms):

- Convey health, physical and environmental hazard information, assigned to a GHS hazard class and category

Signal Words:

- "Danger" or "Warning" are used to emphasize hazards and indicate the relative level of severity of hazard, assigned to a GHS hazard class and category

Hazard Statements:

- Standard phrases assigned to a hazard class and category that describe the nature of the hazard

Elements of GHS standardized labels

Proper shipping name and UN number

Methanol UN1230

Transport Labels



Chemical name and product identifier

XYZ
Chemicals
High street
New town
0987 654 321



Danger

Pictograms and signal words

Highly inflammable liquid and vapour. Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs. Keep away from heat/ sparks/ open flames/ hot surfaces- No smoking. Do not breath mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection. IF SWALLOWED: Immediately call a POISON CENTRE or a doctor/ physician. IF ON SKIN (or hair): Remove/ take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well ventilated place. Keep container tightly closed.

Hazard and precautionary statements

The basic parts of A GHS-Compliant label



The Basic Parts of A GHS-Compliant Label

1



n-Propyl Alcohol

UN No. 1274

CAS No. 71-23-8

2



DANGER

3



Highly flammable liquid and vapor. Causes serious eye damage.
May cause drowsiness and dizziness.

4



Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

5



Fill Weight: 18.65 lbs.
Gross Weight: 20 lbs.
Expiration Date: 6/21/2020

Lot Number: B56754434
Fill Date: 6/21/2013

See SDS for further information.

Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567



6



1. **Product Identifier** - Should match the product identifier on the Safety Data Sheet.
2. **Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
3. **Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
4. **Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. **Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
6. **Pictograms** - Graphical symbols intended to convey specific hazard information visually.

Sample label courtesy of Weber Packaging Solutions • www.weberpackaging.com

GHS hazard (H) statements

H-statements replacing earlier risk (r) phrases for hazard description and abbreviations

- **Physical hazard (P)**
 - Hazard statements H200 - H290
- **Health hazard (H)**
 - Hazard statements H300 – H373
- **Environmental Hazard (E)**
 - Hazard statements H400 – H413

Examples:

- H224 – Extremely flammable liquid and vapour
- H331 – Toxic if inhaled
- H411 – Toxic to aquatic life with long lasting effects

GHS precautionary (P) statements

P-statements replacing earlier safety (s) phrases for precautionary and control measures

- P1xx stands for **General measures**
- P2xx stands for **Preventive measures**
- P3xx stands for **Response measures**
- P4xx stands for **Storage related measures**
- P5xx stands for **Disposal measures**

Examples:

- P284 – Wear respiratory protection
- P321 – Specific treatment (see ... on this label)
- P403 – Store in a well-ventilated place

For further information on GHS

General information on UN-GHS

www.unece.org/trans/danger/publi/ghs/ghs_rev02/02files_e.html

Download new symbols and pictograms








www.unece.org/trans/danger/publi/ghs/pictograms.html



Exercise

Which labels matches with which description on the following page:



1			5		
2			6		
3			7		
4					

Exercise

Enter the matching number



	Danger Fatal if ...		Danger Toxic if...		Danger Causes severe skin burns/eye damage
	Warning Cause skin irritation		Danger Explosive ...		Danger May cause cancer
	Warning Very toxic to aquatic life		Danger Extremely flammable		Warning Harmful if...

Exercise

Enter the matching number

1	Danger Fatal if ...	1	Danger Toxic if...	2	Danger Causes severe skin burns/eye damage
3	Warning Cause skin irritation	5	Danger Explosive ...	4	Danger May cause cancer
7	Warning Very toxic to aquatic life	6	Danger Extremely flammable	3	Warning Harmful if...



(Material) Safety Data Sheet – MSDS/SDS



Key document for
management of chemicals in
your company!

Contains all information necessary
for a good management of
chemicals

(Material) Safety Data Sheet as per GHS

16 standard sections

- SECTION 1: Identification of the substance/mixture and of the company
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 4: First aid measures
- SECTION 5: Firefighting measures
- SECTION 6: Accidental release measure
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 10: Stability and reactivity
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information



What to do with your safety data sheets



Find information and guidance on

- Identity of the substance
- Its physical, health and environmental hazards
- Storage, handling, transport and final disposal
- Safety instructions for workers
- Selection of exposure controls and PPE
- Emergency procedures (e.g. fire fighting, first aid, spill control)
- ...

Important components of SDS

Section 1

- Identification of product and producer
 - **Chemical name** (commercial or generic)
 - Other names
 - **Name of producer** (Address, 24-hour telephone in case of emergencies)



Important components of SDS

Section 2

- Composition and characteristics
 - Identification of components
 - Identification number (e.g. CAS)
 - Percentages of each component
 - Occupational exposure limits
 - Indication of hazardous symbols
 - Hazard (H)-statements



Important components of SDS

Section 3

- **Hazards** and risks
 - Physical hazards
 - ✓ Fire, explosion
 - Health hazards
 - Environment hazards



Important components of SDS



Section 4

- **First aid measures**
 - Instructions how to respond in case of ingestion, inhalation, skin and eye contact

Important components of SDS



Section 5

- Fire fighting
 - Properties (Upper and lower limits, autoignition temperature)
 - Combustion products
 - **Suitable fire extinguishing agents and procedures**
 - Special protective equipment for fire fighters

Important components of SDS

Section 6

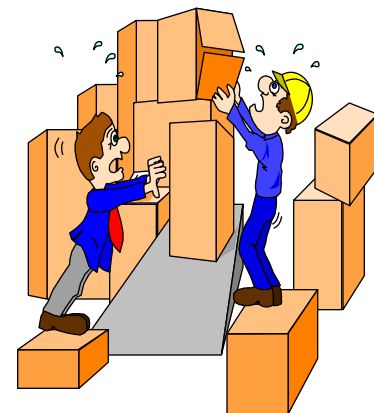
- Accidental release measures
 - Health and safety precautions
 - **Methods and means for containment and cleaning up** (e.g. absorption and neutralising agents)
 - Means of detection
 - Environmental precautions and warnings



Important components of SDS

Section 7

- Handling and storage
 - Recommended methods of work and those to be avoided.
 - Design and location of storage facilities
 - **Storage conditions** (Temperature, humidity, sunlight)
 - **Incompatible materials**
 - Avoidance of sources of ignition



Important components of SDS



Section 8

- Exposure control and personal protection
 - Engineering control measures
 - Personal protective equipment (e.g. gloves, respirators, clothing,...)
 - Chemical resistance materials
 - Methods of minimising exposure of workers

Important components of SDS

Section 9

Physical and chemical properties

- State (solid, liquid, gas)
- Colour, odour
- Viscosity
- Freezing point/range
- Boiling point/range
- Melting point/range
- Flashpoint
- Auto-ignition temperature
- Explosive properties
- Oxidising properties
- Vapour pressure
- Molecular weight
- Specific gravity
- pH
- Solubility
- Parameters such vapour density, evaporation rate and conductivity,...



Important components of SDS

Section 10

- Stability and reactivity
 - **Physical conditions to be avoided** (temperature, pressure, light, shock, contact with moisture or air)
 - **Incompatibility with other chemicals** (acids, bases, oxidising agents or substance causing dangerous reactions)
 - Any hazardous decomposition products



Important components of SDS

Section 11

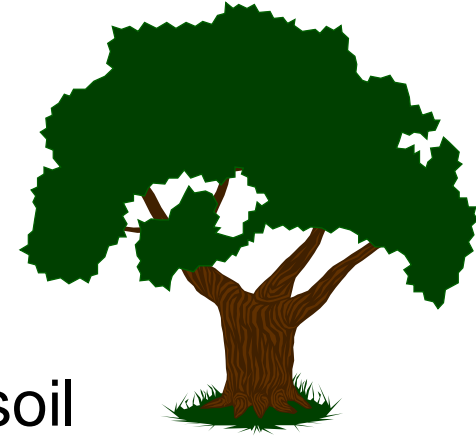
- Toxicological information
 - Potential routes of entry of particular concern
 - Acute and chronic effects for both short- and long-term exposure
 - Lethal concentrations LC_{50} , LC_{L0} , (inhalation)
 - Lethal dosis LD_{50} , LD_{L0} , (ingestion)
 - Whether Carcinogenic, teratogenic, mutagenic
 - Known interactions resulting from medication, tobacco or alcohol



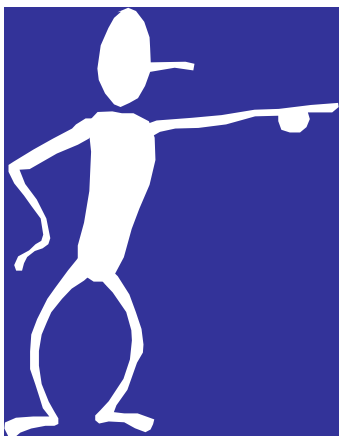
Important components of SDS

Section 12

- Ecological information
 - Potential routes for release
 - Effects on fauna and flora
 - Effects on water bodies, air and soil
 - Biodegradability, persistence
 - Ecotoxicity (e.g. species)



Important components of SDS



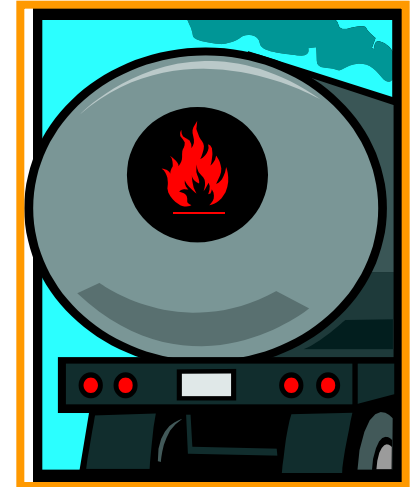
Section 13

- **Disposal considerations**
 - Methods and conditions of disposal of chemicals and packaging
 - Hazardous residuals
 - Reference to local regulations and requirements for safe disposal
 - Possible effects of disposal

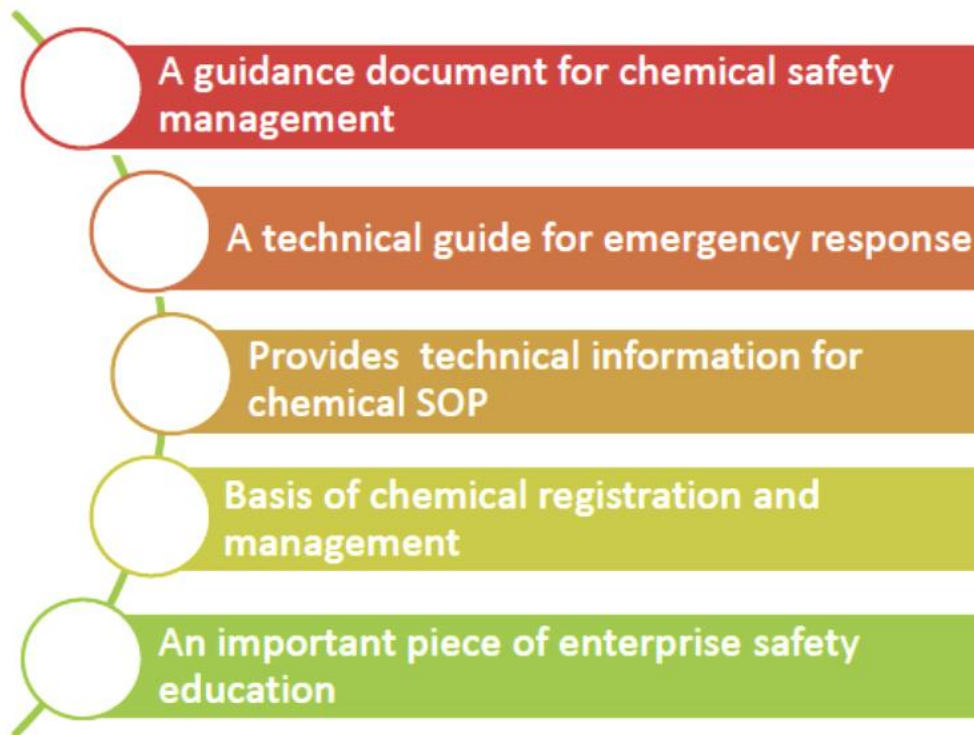
Important components of SDS

Section 14

- Transport information
 - Identification, classification and markings according to UN recommendations on the transport of dangerous goods
 - Segregation of materials, risk classes and UN number
 - Safe transport conditions



Purpose and use of safety data sheets



* SOP: Standard Operation Procedures

Source: ZDHC Training Module 3

Typical challenges with SDS



- What do you think?

METHYL METHACRYLATE		0300 November 2003	
CAS No: 96-62-6 RTCS No: C25075000 UN No: 1247 EC No: 607-035-00-6		Methacrylic acid methyl ester Methyl 2-methylpropenoate $\text{CH}_2=\text{C}(\text{CH}_3)\text{COOCH}_3$ / $\text{C}_5\text{H}_8\text{O}_2$ Molecular mass: 100.1	
TYPES OF HAZARDOUS EXPOSURE	ACUTE HAZARDS/SYMPOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Foam, powder, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lightning. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE	AVOID ALL CONTACT!		
Inhalation	Cough, Shortness of breath, Sore throat.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Redness.	Protective gloves, Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness, Pain.	Safety goggles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Nausea, Vomiting, Abdominal pain.	Do not eat, drink, or smoke during work.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		PACKAGING & LABELLING	
Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Remove all ignition sources. (Extra personal protection: filter respirator for organic gases and vapours.) Chemical protection suit.		F Symbol Xi Symbol R: 11-37/38-43 S: (2)-24-37-46 Note: D UN Hazard Class: 3 UN Pack Group: II	
EMERGENCY RESPONSE		STORAGE	
Transport Emergency Card: TEC (R)-30S1247 NFPA Code: H2; F3; R2		Fireproof. Separated from strong oxidants, strong bases, strong acids. Cool. Keep in the dark. Keep in a well-ventilated room. Store only if stabilized.	
<p>Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission © IPCS 2003 SEE IMPORTANT INFORMATION ON THE BACK.</p>			

Typical challenges with SDS



METHYL METHACRYLATE		0300 November 2003	
CAS No: 96-62-6 RTCS No: C25075000 UN No: 1247 EC No: 607-035-00-6		Methacrylic acid methyl ester Methyl 2-methylpropenoate $\text{CH}_2=\text{C}(\text{CH}_3)\text{COOCH}_3$ / $\text{C}_5\text{H}_8\text{O}_2$ Molecular mass: 100.1	
TYPES OF HAZARDOUS EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Foam, powder, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: keep drums, etc. cool by spraying with water.
EXPOSURE		AVOID ALL CONTACT!	
Inhalation	Cough, Shortness of breath, Sore throat.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Redness.	Protective gloves, Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness, Pain.	Safety goggles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Nausea, Vomiting, Abdominal pain.	Do not eat, drink, or smoke during work.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		PACKAGING & LABELLING	
Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Remove all ignition sources. (Extra personal protection: filter respirator for organic gases and vapours.) Chemical protection suit.		F Symbol Xi Symbol R: 11-37/38-43 S: (2)-24-37-46 Note: D UN Hazard Class: 3 UN Pack Group: II	
EMERGENCY RESPONSE		STORAGE	
Transport Emergency Card: TEC (R)-30S1247 NFPA Code: H2; F3; R2		Fireproof. Separated from strong oxidants, strong bases, strong acids. Cool. Keep in the dark. Keep in a well-ventilated room. Store only if stabilized.	
<p>IPCS International Programme on Chemical Safety</p> <p>UNEP</p> <p>Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission © IPCS 2003 SEE IMPORTANT INFORMATION ON THE BACK.</p>			

- Not available
- Quality incoherent (ref. GHS)
- Available but outdated
- Incomplete (e.g. missing pages)
- Cut and paste
- Wrong language
- Available but not used

Exercise

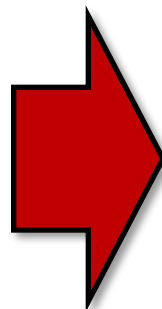
Take a look at the sample safety sheet provide to your group and discuss which information will be relevant for which type of persons/group of persons in your company.

Time 20 – 30 minutes

Using information in safety data sheets

Select and share content of your SDSs e.g in form of procedures and work instructions!

METHYL METHACRYLATE		0300 November 2003	
CAS No: 96-62-6 RTCS No: Q25075000 UN No: 1247 EC No: 607-035-00-6		Methacrylic acid methyl ester Methyl 2-methylpropenoate $\text{CH}_2\text{C}(\text{CH}_3)\text{COOCH}_3$ / $\text{C}_5\text{H}_8\text{O}_2$ Molecular mass: 100.1	
TYPE OF HAZARDOUS EXPOSURE	ACUTE HAZARDS/SYMPOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Foam, powder, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		AVOID ALL CONTACT!	
Inhalation	Cough, Shortness of breath, Sore throat.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness, Pain.	Safety goggles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Nausea, Vomiting, Abdominal pain.	Do not eat, drink, or smoke during work.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		PACKAGING & LABELLING	
Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Remove all ignition sources. (Extra personal protection: filter respirator for organic gases and vapours.) Chemical protection suit.		F Symbol Xi Symbol R: 11-37/38-43 S: (2)-24-37-45 Note: D UN Hazard Class: 3 UN Pack Group: II	
EMERGENCY RESPONSE		STORAGE	
Transport Emergency Card: TEC (R)-3051247 NFPA Code: H2; F3; R2		Fireproof. Separated from strong oxidants, strong bases, strong acids. Cool. Keep in the dark. Keep in a well-ventilated room. Store only if stabilized.	



Instructions w/r to Hazardous Substance Safety

Company: Meyer Priv. Ltd.
Workplace, operations: Workshop 14, cementing of small parts

Hazardous substance

GESIFIX 100
 Plexiglas cementing agent, acrylic resin dissolution containing methyl methacrylate.

Hazards for man and environment

Highly flammable: Vapours may form explosive mixtures with air.
Irritating: Vapours act irritating on eyes, skin and respiratory system. In contact with skin allergic reactions possible.
Harmful to water: Must not enter ground water, sewerage system and subsoil

Protective measures and rules of conduct

Eye protection: Use protective goggles during cementing.
Skin protection: Apply skin protection cream prior to work. Use nitrile rubber hand gloves during cementing.
Don't inhale vapours. Don't eat, drink, smoke or keep food items at the workplace. Avoid contact with eyes and skin.

Conduct in the event of danger

Fire: 1) Save lives
 2) Alert fire brigade (Tel. 112 112)
 3) Fight fire with fire extinguisher (water, foam, powder, carbon dioxide) Foam extinguisher besides entry door.
Spills: Take up small spills with vermiculite.

First aid

Skin contact: Clean with plenty of water and soap!
Eye contact: Rinse with plenty of water, seek doctor!
Swallowing: Seek doctor immediately!
Inhalation: Get fresh air! Seek doctor if indisposition continues.
Clothes contact: Change contaminated clothes immediately.

Proper disposal

Put residues into the yellow bin for centralized incineration. Bring empty product containers to the waste storage area.

Date of last revision: Signature of Employer:

Safety data sheet

References in ZDHC CMS

- 2.3.1 - 2.3.3 - Supplier Approval/Removal Process
- 2.4.1 - Hazard and Risk Assessment
- 2.4.3 - Health and Safety
- 3.1.2 – Communication
- 3.4 - Document and Record Control
- 3.5 - Chemical Management Work Practices –
 - 3.5.2 - Safety Data Sheet Management
 - 3.5.3 - Chemical Handling
 - 3.5.4 - Chemical Storage
 - 3.5.5 - Chemical Transportation
 - 3.5.8 - Personal Protective Equipment



Safety data sheet

References in ZDHC CMS

ZDHC CMS 3.5.2 Safety Data Sheet Management

- Preferred suppliers: Providing SDS in the local language and information in line with relevant GHS standards.

Issues for verification (Example) by internal or external auditors

- Does the facility have safety data sheets (SDS) for the hazardous materials used in the facility?
- Location, completeness and availability of SDSs in each department using chemicals?
- Are the SDS current within the last 3 years?



Next steps

Check in your company

- Are all your chemical containers labelled with GHS symbols?
- Do the chemical container labels contain the minimum information?
- Do you have all the up-to-date (not older than 3 years) SDS for your chemicals?

