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Does the information in the SDS you receive support safe handling of chemicals

Presented by:

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Content

- Regulatory Requirement – OSH Act 2007
- Content and structure of SDS
- Who is SDS meant for?
- Utility of information in SDS
- Isolated problem - How useful are SDS?
- Summary and Conclusion
- Q&A

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Regulatory Requirement

THE OCCUPATIONAL SAFETY AND HEALTH ACT, 2007

ARRANGEMENT OF SECTIONS

PART I— PRELIMINARY

AN ACT of Parliament to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes

ENACTED by the Parliament of Kenya as follows—

Material safety data sheets.

84. (1) Every manufacturer, importer, supplier or distributor of chemicals shall make available to employers, material safety data sheets for chemicals and other hazardous substances, containing detailed essential information regarding their identity, supplier, classification of hazards, safety precautions and emergency procedures.

(2) A supplier of hazardous chemicals shall ensure that revised labels and chemical safety data sheets are prepared and provided to an employer whenever new and relevant safety and health information becomes available.

(3)Every employer shall ensure the availability at the workplace of material safety data sheets for all chemicals and other hazardous substances in use at the premises of the employer, containing detailed essential information regarding the identity, suppliers' classification of hazards, safety precautions and emergency procedures.

Diverse Product Categories (PC)

PC1 - Adhesives, Sealants
PC2 - Adsorbents
PC3 - Air care products
PC4 - Anti-Freeze and De-icing products
PC5 - Artists Supply and Hobby preparations
PC7 - Base metals and alloys
PC8 - Biocidal Products (e.g. Disinfectants, pest control)
PC9a - Coatings and Paints, Thinners, paint removers
PC9b - Fillers, Putties
PC10 - Building and construction preparations not covered elsewhere PC11 - Explosives
PC12 - Fertilizers
PC13 - Fuels
PC14 - Metal surface treatment products, including galvanic and electroplating products
PC15 - Non-metal-surface treatment products
PC16 - Heat Transfer Fluids
PC17 - Hydraulic Fluids
PC18 - Ink and Toner
PC19 - Intermediate
PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other un-specific
PC21 - Laboratory Chemicals
PC22 - Lawn and Garden Preparations, including fertilizers
PC23 - Leather tanning, dye, finishing, impregnation and care products
PC24 - Lubricants, Greases and Release Products
PC25 - Metal Working Fluids
PC26 - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids
PC27 - Plant Protection Products
PC28 - Perfumes, Fragrances
PC29 - Pharmaceuticals
PC30 - Photochemicals
PC31 - Polishes and Wax Blends
PC32 - Polymer Preparations and Compounds
PC33 - Semiconductors
PC34 - Textile dyes, finishing and impregnating products; including bleaches and other processing aids;
PC35 - Washing and Cleaning Products (including solvent based products)
PC36 - Water softeners
PC37 - Water treatment chemicals
PC38 - Welding and soldering products, flux products
PC39 - Cosmetics, personal care products
PC40 - Extraction agents

Content and structure of SDS

SDS according to The factories and other places of work (hazardous substaces) rules, 2007, Schedule 3

1. Material Identification
2. Hazard identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting meausres
6. Accidental release measures
7. Handling and storage
8. Exposure control/personal protection
9. Physical and chemicals properties
10. Stability and reactivity
11. Toxicological information
12. Disposal considerations
13. Other information

SDS according to UN GHS requirements (2017)

1. Identification
2. Hazard identification
3. Composition/information on ingredients
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7. Handling and storage
8. Exposure control/personal protection
9. Physical and chemicals properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Tranpsort information
15. Regulatory information
16. Other information

Detailed information requirement:
According to UN GHS of Classification and Labelling

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.2. Label elements

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

3.2. Mixtures

SECTION 4: First aid measures

4.1. Description of first aid measures

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

7.2. Conditions for safe storage, including any incompatibilities

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

SECTION 12: Ecological information

12.1. Toxicity

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

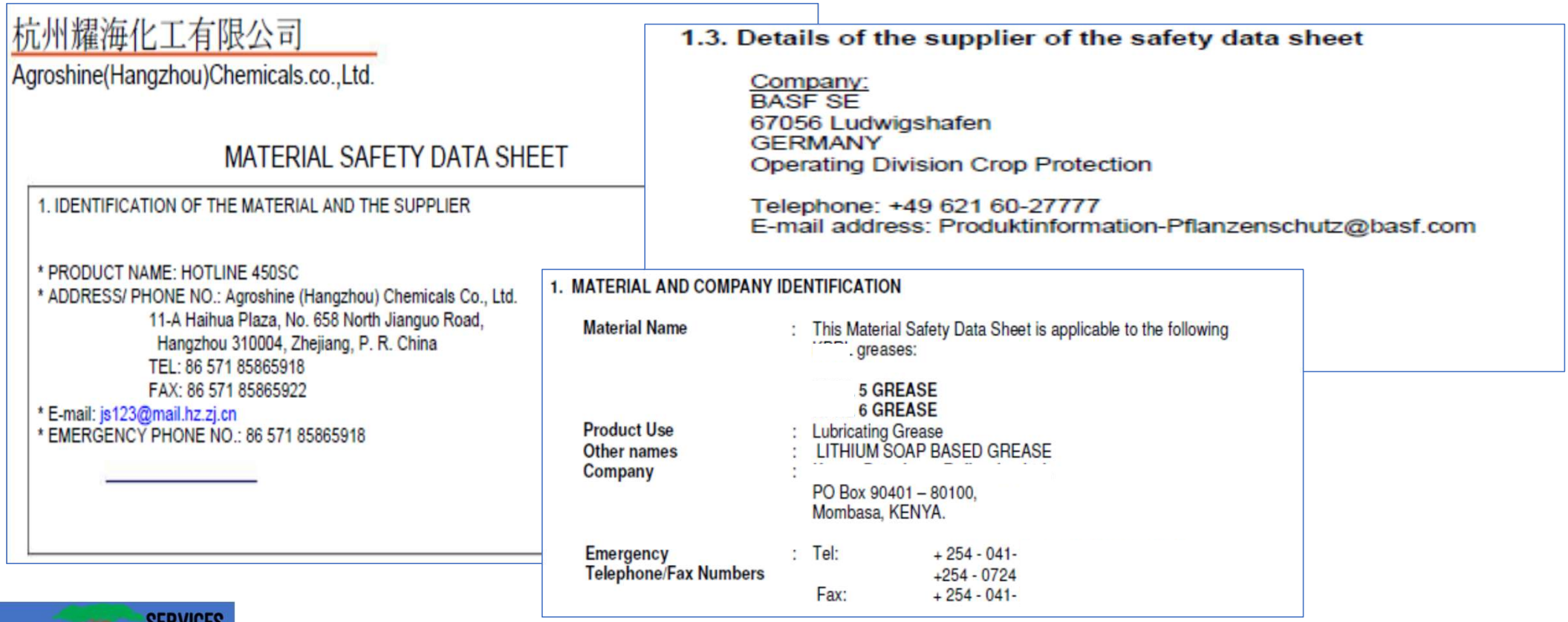
15.2. Chemical safety assessment

SECTION 16: Other information'

http://www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev07/English/ST_SG_AC10_30_Rev7e.pdf

Who is SDS meant for?

- …make available to the employer […], *cf*. 84(1)



杭州耀海化工有限公司
Agroshine(Hangzhou)Chemicals.co.,Ltd.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND THE SUPPLIER

* PRODUCT NAME: HOTLINE 450SC
* ADDRESS/ PHONE NO.: Agroshine (Hangzhou) Chemicals Co., Ltd.
11-A Haihua Plaza, No. 658 North Jianguo Road,
Hangzhou 310004, Zhejiang, P. R. China
TEL: 86 571 85865918
FAX: 86 571 85865922
* E-mail: js123@mail.hz.zj.cn
* EMERGENCY PHONE NO.: 86 571 85865918

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Operating Division Crop Protection

Telephone: +49 621 60-27777
E-mail address: Produktinformation-Pflanzenschutz@basf.com

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name	:	This Material Safety Data Sheet is applicable to the following [illegible]. greases:
		5 GREASE
		6 GREASE
Product Use	:	Lubricating Grease
Other names	:	LITHIUM SOAP BASED GREASE
Company	:	PO Box 90401 – 80100, Mombasa, KENYA.
Emergency Telephone/Fax Numbers	:	Tel: + 254 - 041- +254 - 0724
		Fax: + 254 - 041-

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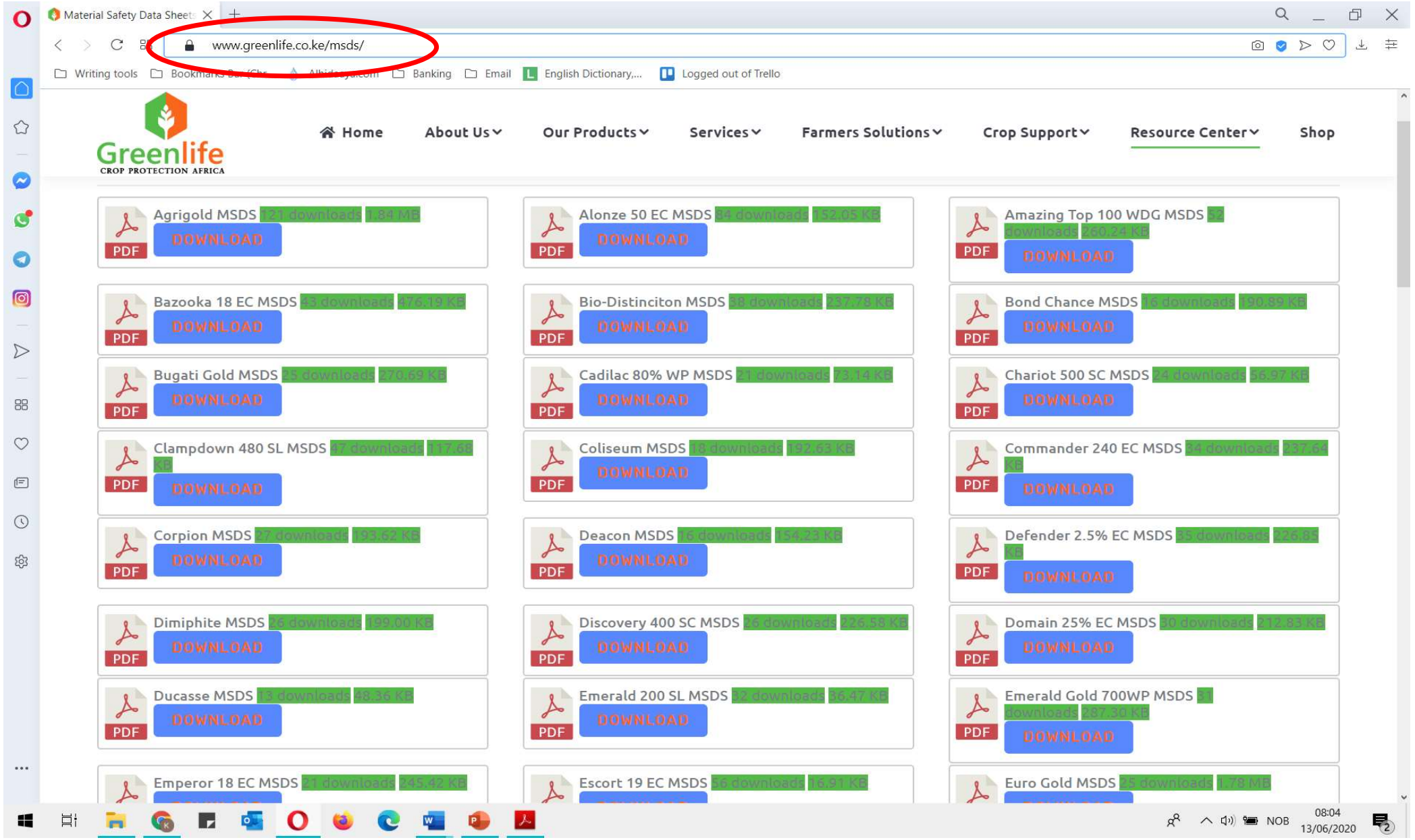
Material Safety Data Sheet
www.greenlife.co.ke/msds/
Writing tools
Banking
Email
English Dictionary,...
Logged out of Trello
Greenlife
CROP PROTECTION AFRICA
Home
About Us
Our Products
Services
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Clampdown 480 SL MSDS 47 downloads 117.68 KB DOWNLOAD
Coliseum MSDS 18 downloads 192.63 KB DOWNLOAD
Commander 240 EC MSDS 84 downloads 237.64 KB DOWNLOAD
Corpion MSDS 27 downloads 193.62 KB DOWNLOAD
Deacon MSDS 16 downloads 154.23 KB DOWNLOAD
Defender 2.5% EC MSDS 45 downloads 226.85 KB DOWNLOAD
Dimiphite MSDS 26 downloads 199.00 KB DOWNLOAD
Discovery 400 SC MSDS 26 downloads 226.58 KB DOWNLOAD
Domain 25% EC MSDS 30 downloads 212.83 KB DOWNLOAD
Ducasse MSDS 13 downloads 48.36 KB DOWNLOAD
Emerald 200 SL MSDS 32 downloads 86.47 KB DOWNLOAD
Emerald Gold 700WP MSDS 31 downloads 287.30 KB DOWNLOAD
Emperor 18 EC MSDS 21 downloads 245.42 KB
Escort 19 EC MSDS 56 downloads 16.91 KB
Euro Gold MSDS 25 downloads 1.78 MB
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13/06/2020

Utility of the information is SDS

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

Emergency telephone number (with hours of operation) : +27 21 300 2732 (24/7)

* EMERGENCY PHONE NO.: 86 571 85865918

Emergency Telephone/Fax Numbers	:	Tel:	+ 254 - 041- 3433511-19 / 2220967 +254 - 0724 - 257103 ;+254 - 0733 -401640
		Fax:	+ 254 - 041- 2224251 / 3432603

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Utility of the information in SDS

3. HAZARDS IDENTIFICATION

Appearance and Odor	:	Smooth semi-solid grease, flax coloured with hydrocarbon odour.
Routes of Exposure	:	Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.
Health Hazards	:	May be slightly irritating to the eyes. Product may be slightly irritating to skin. Inhalation of oil mists or vapours from hot oil may cause irritation of the upper respiratory tract.
Safety Hazards	:	Not classified as flammable but will burn.
Other Information	:	Not classified as dangerous for supply or conveyance.

16. OTHER INFORMATION

MSDS Revisions	:	None.
MSDS Regulation	:	The contents in the MSDS are in fulfillment of the requirements of the *Factories & Other Place of Work (Hazardous Substances) Regulations, 2007.*
Disclaimer:	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

«No warranty or guarantee is expressed or implied regarding accuracy of these data […]»

Utility of the information in SDS

Chemical Family: Etchant/ Cleaner

2. Composition, Information and Ingredients

Substance	Weight %
Acid	5 - 20
Solvents	20 – 50
Water	40 – 60
Copper carbonate	< 1

3. Hazard Identification

Flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness. Harmful or fatal if swallowed, may cause lung damage and eye, skin and respiratory tract irritation. Repeated contact may cause an allergic skin reaction. Use only with adequate ventilation. Keep away from heat, sparks, flames and all other sources of ignition.

4. First aid measures

Skin contact: Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. DO NOT use solvents or thinners.

Eye contact: Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes and get medical attention.

7. Handling and Storage

Storage: Store in closed original container at temperatures between 5°C and 25°C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidising material. Alkalis. Acids.

Handling: Vapour may collect on low areas. Avoid static generation when pouring out liquid. Avoid breathing vapour. Do not weld or flame cut 'empty' containers. Wash hands before eating, smoking or using the wash room. Do not smoke, eat or drink anywhere near where this product is stored or used.

8. Physical and Chemical Properties

Appearance	Clear blue liquid
Boiling point	40°C
Specific gravity	1.00 – 1.05
Odour	Acrid

10. Toxicological information

Direct contact may cause eye, skin and/or respiratory irritation. Ingestion may cause lung damage and result in death

Utility of the information in SDS

Section 2. Hazards identification

Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.

Classification of the substance or mixture.	:	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements	:	H373	May cause damage to organs through prolonged or repeated exposure.
		H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention	:	P260-b	Do not breathe gas or vapour.
		P273	Avoid release to the environment.
Response	:	P314-a	Get medical attention if you feel unwell.
		P391	Collect spillage.

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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits : None.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.

Personal protective equipment (Pictograms) :

Section 9. Physical and chemical properties

Appearance

Physical state	:	liquid
Color	:	White.
Odor	:	Not determined.
Odor threshold	:	Not determined.
pH	:	9
Melting/freezing point	:	-7 °C
Boiling/condensation point	:	Not determined.
Sublimation temperature	:	Not determined.
Flash point	:	Not determined.
Fire point	:	Not determined.
Evaporation rate	:	Not determined.
Flammability (solid, gas)	:	Non-flammable.
Lower and upper explosive (flammable) limits	:	**Lower:** Not determined. **Upper:** Not determined.
Vapor pressure	:	Not determined.
Relative density	:	1,734
Solubility	:	Not determined.
Partition coefficient: n-octanol/water	:	Not determined.
Auto-ignition temperature	:	Not determined.
Decomposition temperature	:	Not determined.
Viscosity	:	**Dynamic:** 1.500 - 2.500 mPa.s
	:	**Kinematic:** Not determined.
Explosive properties	:	None.
Oxidizing properties	:	None

Q: Why not determined? Is this information not necesary?

Section 10. Stability and react

Reactivity : No specific
product or i

Chemical stability : The produc

Possibility of hazardous reactions : Under norm
reactions will not occur.

Conditions to avoid : Avoid contamination by any source including metals, dust and organic materials.

Incompatible materials : Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	CAS number	%
zinc oxide	1314-13-2	>= 50 - < 65
ethanediol	107-21-1	>= 5 - < 7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Urea:
N_2H_4CO

Ethandiol:
$C_2H_6O_2$

How useful are safety SDS?

ARE SAFETY DATA SHEETS FOR CLEANING PRODUCTS USED IN NORWAY A FACTOR CONTRIBUTING TO THE RISK OF WORKERS EXPOSURE TO CHEMICALS?

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[1]Labour Inspection Authority, Oslo, Norway
Market Surveillance of Chemicals
[2]Norwegian University of Science and Technology, Trondheim, Norway
Institute of Industrial Economics and Technology Management

https://www.researchgate.net/publication/265608056_Are_safety_data_sheets_for_cleaning_products_used_in_Norway_a_factor_contributing_to_the_risk_of_workers_exposure_to_chemicals

Section of SDS	Title	Deficiency	Observed[1] (%)	Accept[2]	Remarks
1	Area of use	Generic use description; lack specificity and clarity	89%	N	Possibility of wrong use of product
		Use advice against not given	100%	N	
2	Classification of chemical	Likelihood of hazard underestimation	33%	N	Presence of potential CMR substances present not taken into consideration
3	Constituents of the mixture	Unlisted mixture components	100%	N	Appropriateness of measures cannot be confirmed
		No components given at all	7%	A	This issue concerned a few SDS
4	First aid measures	No exposure symptoms mentioned	100%	N	May be difficult to recognise exposure
		Only "symptomatic treatment" given	20%	P	
		SDS with similar measures irrespective of product content	62%	P	This applied for SDS of different products, but from the same supplier.

Section of SDS	Title	Deficiency	Observed[1] (%)	Accept[2]	Remarks
8	Exposure control	Missing and/or contrasting information	93%	N	Example exposure limit values missing
		Insufficient PPE description	100%	N	One/more of the required specifications not given
9	Physical/ chemical properties	Relevant properties listed as “unknown” or “not available”	100%	N	Physical and chemical properties are necessary for risk management
11	Toxicological information	Relevant information missing	100%	N	Values such as LD values not mentioned

Summary

- The law requires a supplier of chemicals to provide SDS
- SDS can be complied according to globally harmonised system to ensure correct level of information
- Many SDS for chemicals supplied to users (in Kenya) are not prepared for the Kenyan user
- Generally, there are a number of shortcomings in the information in SDS for many chemicals

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Conclusion

Every employer shall ensure the availability at the workplace of material safety data sheets for all chemicals and other hazardous substances in use at the premises of the employer, containing detailed essential information regarding the identity, suppliers' classification of hazards, safety precautions and emergency procedures.

***cf.* OSH Act 2007; 84 (3)**

➢ To what purpose?

- ❖ Information has to be correct, and in accordance to the acceptable quality standards
- ❖ Information has to be practical, targeted and appropriate for the hazards
- ❖ Information should contribute to safe intended use of the chemical
- ❖ There should be a systematic regulatory control and enforcement of quality of information in SDS

Thank you for your attention

Q & A

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