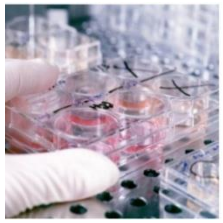
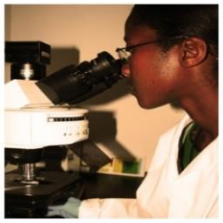
NATIONAL HEALTH LABORATORY SERVICE





Cleaning and disinfection in different workplace settings - including handling, storage and transportation

Dr Charlene Andraos

29 April 2021

Common questions
(answered in previous webinars)

1. What is deep cleaning?
   - Thorough cleaning with soap followed by disinfection with ethanol/jik of all likely-contaminated surfaces.

2. Why is fogging as a deep cleaning method not recommended?
   - Often not conducted correctly according to guidelines and may increase unnecessary health risks.

3. Should a business be closed for deep cleaning when a COVID-19 positive case is identified?
   - No, whole business does not have to be closed if contaminated area can be separated from rest of building.

Common questions
(answered in previous webinars)

4. Should only external cleaning companies conduct deep cleaning and is a certificate of cleaning needed?
   - No. Existing in-house cleaners may conduct deep cleaning; no the DoH does not require a certificate of cleaning
     http://www.nioh.ac.za/wp-content/uploads/2020/06/disinfection_ohs_academic_june-20.pdf

5. When and how should certain items be cleaned/disinfected (e.g. carpets, vehicles)?
   - https://www.nioh.ac.za/wp-content/uploads/2020/09/Cleaning-guidelines-for-workplaces-14-Sep-2020.pdf

Common questions (answered in previous webinars)

6. Do requirements for cleaning/disinfection differ in different workplaces?
   - Healthcare work settings:
     https://www.safeworkaustralia.gov.au/doc/how-clean-and-disinfect-your-workplace-covid-19
   - Non-healthcare work settings:
     https://www.who.int/publications-detail/cleaning-and-disinfection-of-environmental-surfaces-inthe-context-of-covid-19

     https://www.nicd.ac.za/wp-content/uploads/2020/05/ipc-guidelines-covid-19-version-2-21-may-2020.pdf
   - Documents/files/paperwork:
     http://www.nationalarchives.gov.za/node/2347417
   - Schools:
     http://section27.org.za/wp-content/uploads/2020/09/2020.08.18-Revised-SOPs-for-Prevention-Containment-and-Management.pdf

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Common questions recently received

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH
Division of the National Health Laboratory Service

1. Are there any recent changes in directions from DoH or DoEL regarding cleaning/disinfection of workplaces?
   No

   DoEL:
   http://www.labour.gov.za/DocumentCenter/Regulations%20and%20Notices/Regulations/Occupational%20Health%20and%20Safety/OHS%20workplace%20Directive_%2028%20Sept%202020.pdf

   DoH:
   https://www.nioh.ac.za/wp-content/uploads/2020/06/disinfection_ohs_academic_june-20.pdf

CLEANING AND DECONTAMINATION OF WORKPLACES IN THE CONTEXT OF COVID-19 (10 June 2020)

(Statement prepared by the Occupational Health and Safety academic group within the Occupational Health and Safety Workstream – Covid-19 Response)

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Common questions recently received

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH
Division of the National Health Laboratory Service

1. How should non-bulk/bulk hand sanitizer/disinfectants be properly handled?
2. How should non-bulk/bulk hand sanitizer/disinfectants be properly stored?
3. How should non-bulk/bulk hand sanitizer/disinfectants be properly transported?
4. Is it safe to keep hand sanitizer in hot vehicle?

16 Apr

30 000 litres of ethanol catch fire at factory in Centurion

news24 Tebogo Monama

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File photo - Part of a factory went up in flames in Centurion.

Getty Images

New hand sanitizer warning after woman was burned in house fire

abcNEWS By KELLY MCCARTHY

Monday, September 7, 2020

Safety Data Sheet (SDS)

1. For safe use of sanitiser/disinfectant, always refer to Safety Data Sheet (SDS), formally Material Safety Data Sheet (MSDS), product safety data sheet (PSDS).

2. SDSs will differ depending on the composition of sanitiser/disinfectant.
   - Hand sanitisers generally contain 60 – 70% ethanol or isopropyl alcohol
   - Surface disinfectants generally contain hypochlorite-based solutions i.e. bleach/jik
   - Always refer to correct SDS

3. Regulations for Hazardous Chemical Agents promulgated in terms of section 43 of the Occupational Health and Safety Act, act No. 85 of 1993.

4. Section 14A of the Regulations for Hazardous Chemical Agents: An SDS shall be provided by the manufacturer or importer to any person.
   https://www.nioh.ac.za/wp-content/uploads/2021/04/2.-RHCA-Launch-B.-Huna-20.04-19.042021-15h20pm.pdf
   https://www.nioh.ac.za/wp-content/uploads/2021/04/RHCA-E-Lourens-PP-Launch-20-April.pdf

5. SDSs are publicly available. Insist on getting SDS from company supplying sanitiser/disinfectant.

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Safety Data Sheet (SDS)

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

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Safety Data Sheet (SDS)

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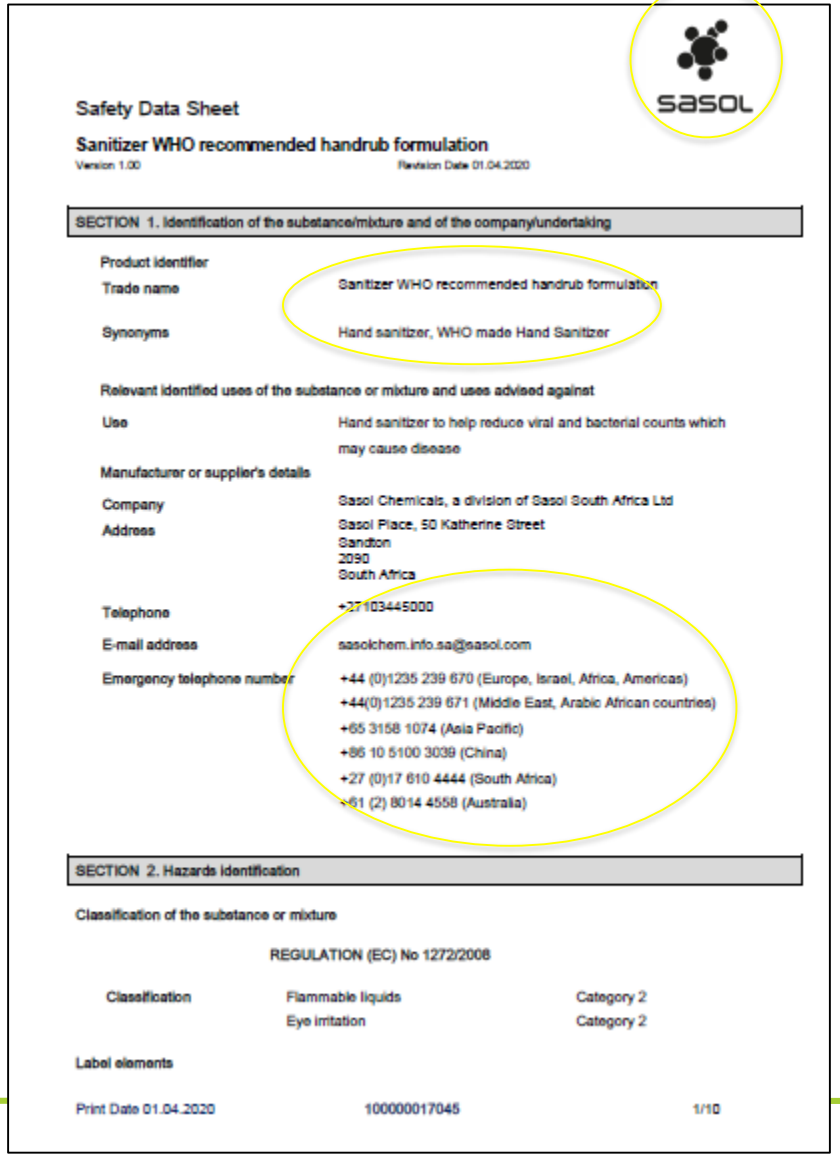

Safety Data Sheet

Sanitizer WHO recommended handrub formulation

Version 1.00 Revision Date 01.04.2020

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

Product identifier

Trade name Sanitizer WHO recommended handrub formulation

Synonyms Hand sanitizer, WHO made Hand Sanitizer

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

Use Hand sanitizer to help reduce viral and bacterial counts which may cause disease

Manufacturer or supplier's details

Company Sasol Chemicals, a division of Sasol South Africa Ltd

Address Sasol Place, 50 Katherine Street
Sandton
2090
South Africa

Telephone +27103445000

E-mail address sasolchem.info.sa@sasol.com

Emergency telephone number +44 (0)1235 239 670 (Europe, Israel, Africa, Americas)
+44(0)1235 239 671 (Middle East, Arabic African countries)
+65 3158 1074 (Asia Pacific)
+86 10 5100 3039 (China)
+27 (0)17 610 4444 (South Africa)
+61 (2) 8014 4558 (Australia)

SECTION 2. Hazards identification

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification	Flammable liquids	Category 2
	Eye irritation	Category 2

Label elements

Print Date 01.04.2020 100000017045 1/10

Safety Data Sheet (SDS)

SECTION 2. Hazards identification

REGULATION (EC) No 1272/2008

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

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Safety Data Sheet (SDS)

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH
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SECTION 3. Composition/information on ingredients

Mixture

Ethanol
Contents: >= 79.00 %VOL/VOL
CAS-No. 64-17-5 Index-No. 603-002-00-5 EC-No. 200-578-6
Hazard statements *H225 H319*

hydrogen peroxide solution
Contents: >= 0.125 %VOL/VOL
CAS-No. 7722-84-1 Index-No. 008-003-00-9 EC-No. 231-765-0
Hazard statements *NA:*

glycerol
Contents: >= 1.45 %VOL/VOL
CAS-No. 56-81-5 Index-No. EC-No. 200-289-5

Water
Contents: >= 19.00 %VOL/VOL
CAS-No. 7732-18-5 Index-No. EC-No. 231-791-2

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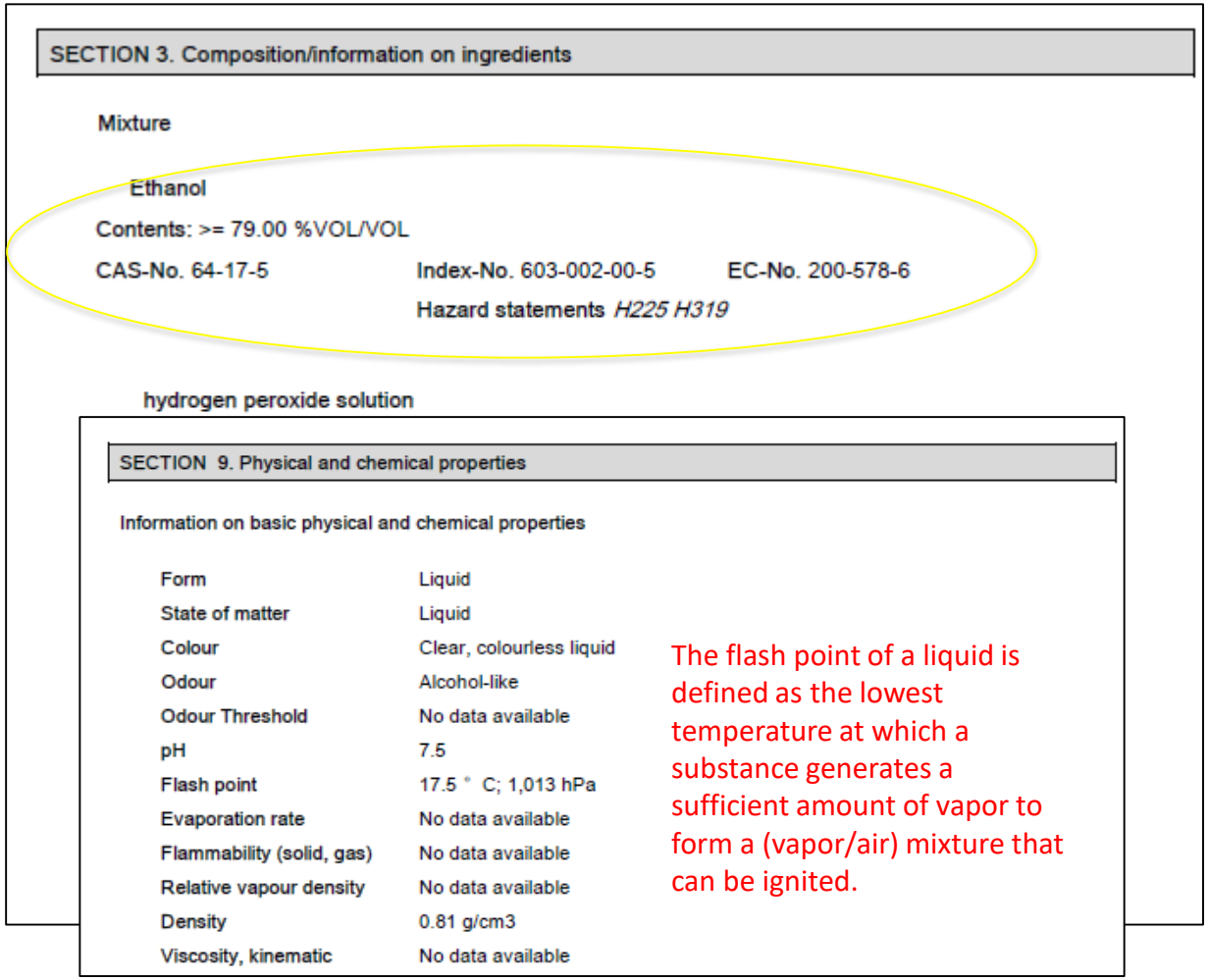

SECTION 3. Composition/information on ingredients

Mixture

Ethanol

Contents: >= 79.00 %VOL/VOL

CAS-No. 64-17-5 Index-No. 603-002-00-5 EC-No. 200-578-6

Hazard statements *H225 H319*

hydrogen peroxide solution

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Form	Liquid
State of matter	Liquid
Colour	Clear, colourless liquid
Odour	Alcohol-like
Odour Threshold	No data available
pH	7.5
Flash point	17.5 ° C; 1,013 hPa
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Relative vapour density	No data available
Density	0.81 g/cm3
Viscosity, kinematic	No data available

The flash point of a liquid is defined as the lowest temperature at which a substance generates a sufficient amount of vapor to form a (vapor/air) mixture that can be ignited.

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Safety Data Sheet (SDS)

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- SECTION 4: First aid measures
  - Inhalation: Move to fresh air. Administer artificial respiration. Call physician.
  - Skin: Medical attention
  - Eye: Rinse with water for 15 min
  - Ingestion: Immediate medical advice

- SECTION 5: Firefighting measures
  - Extinguishing media: Water spray, Dry powder, Foam

- SECTION 6: Accidental release measures
  - Ensure adequate ventilation. Keep away from sources of ignition. No smoking.
  - Cleaning spills:
    - » Small: Wear PPE, use absorbent paper, collect and seal in drums for disposal.
    - » Large: Shut off all sources of ignition, clear area of unprotected personnel, increase ventilation, cover with absorbent (inert material, sand, soil), vacuum or sweep, use spark-free shovel.

NATIONAL HEALTH LABORATORY SERVICE

Safety Data Sheet (SDS)

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- SECTION 7: Handling and Storage
  - Keep away from sources of ignition and static electricity charge which might cause ignition of vapours
  - Keep storage containers tightly closed in cool, well ventilated place

- SECTION 10: Stability and reactivity
  - Avoid strong sunlight for prolonged periods
  - Avoid heat, open flame
  - Avoid storing with oxidizing agents, reducing agents, acids, bases

Safety Data Sheet (SDS)

Transport of dangerous goods by road

Transport of dangerous goods by rail

International Maritime Dangerous Goods Code

International Civil Aviation Organization

SECTION 14. Transport information

ADR	
UN number:	1170
Class:	3
Packaging group:	II; F1;
Proper shipping name:	ETHANOL
RID	
UN number:	1170
Class:	3
Packaging group:	II; F1
Proper shipping name:	ETHANOL
IMDG	
UN number:	1170
Class:	3
EmS:	F-E, S-D
Packaging group:	II
Proper shipping name:	ETHANOL
ICAO/IATA	
UN number :	1170
Class:	3
Packaging group:	II
Proper shipping name:	ETHANOL

Safety Data Sheet (SDS)

Transport of dangerous goods by road

Transport of dangerous goods by rail

International Maritime Dangerous Goods Code

International Civil Aviation Organization

SECTION 14. Transport information

ADR

UN number:	1170
Class:	3
Packaging group:	II; F1;
Proper shipping name:	ETHANOL

Dangerous goods are assigned to UN numbers according to their hazard classification and composition

RID

UN number:	1170
Class:	3
Packaging group:	II; F1
Proper shipping name:	ETHANOL

The substances and articles of Class 3 are subdivided as follows:

F Flammable liquids, without subsidiary risk:

F1 Flammable liquids having a flash-point of or below 60 °C;
F2 Flammable liquids having a flash-point above 60 °C which are carried or handed over for carriage at or above their flash-point (elevated temperature substances);

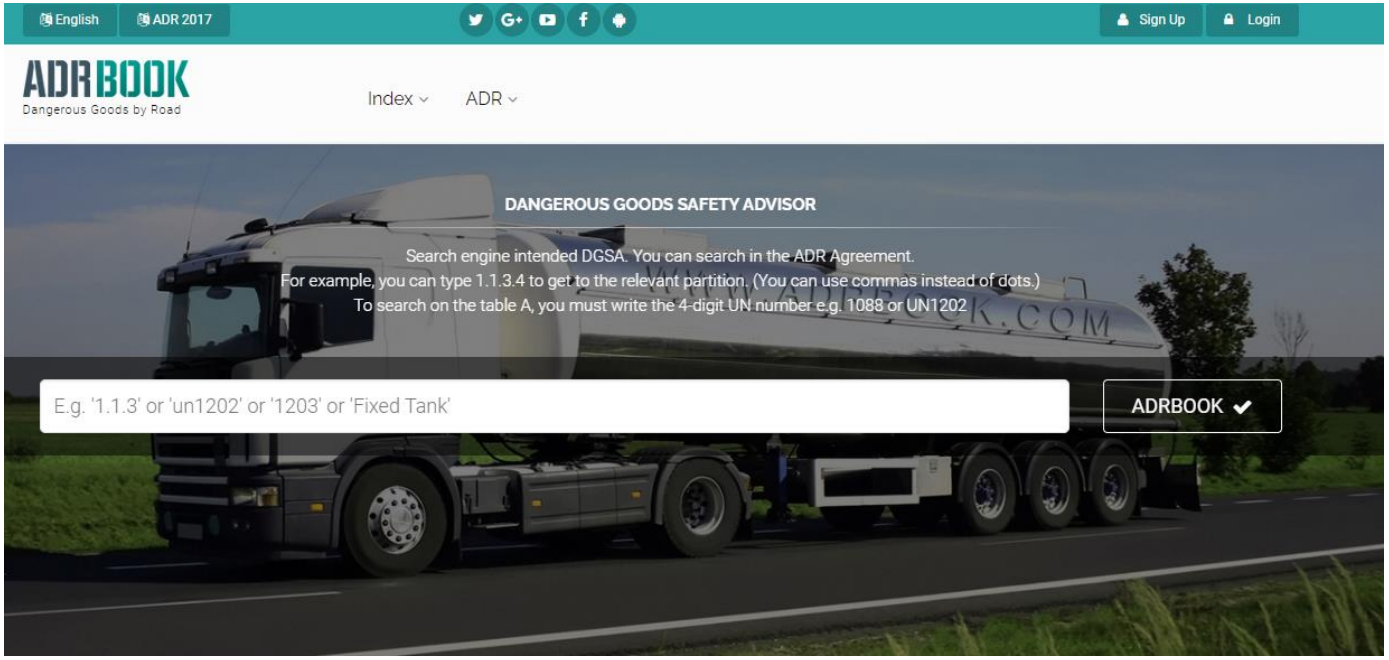
IMDG

UN number:	1170
Class:	3
EmS:	F-E, S-D
Packaging group:	II
Proper shipping name:	ETHANOL

ICAO/IATA

UN number :	1170
Class:	3
Packaging group:	II
Proper shipping name:	ETHANOL

- The National Road Traffic Act 93 of 1996 includes provisions for the road transport of Dangerous Goods as listed in SANS10228.
  http://www.dgrcompliance.co.za/wp-content/uploads/downloads/nrta_dangerous-goods.pdf
  https://store.sabs.co.za/pdfpreview.php?hash=12b99f7a2dfaace8c65d1f44cc0b3b441d311172&preview=yes



https://adrbook.com/en/2017

UN No	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4	3.5.1.2	Packing instructions 4.1.4	Special packing provisions 4.1.4	Mixed packing provisions 4.1.10
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)
1170	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	3	F1	II	3	144 601	1 L	E2	P001 IBC02 R001		MP19

Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
Instructions 4.2.5.2 7.3.2	Special provisions 4.2.5.3	Tank code 4.3	Special provisions 4.3.5 6.8.4	9.1.1.2	(Tunnel restriction code) 1.1.3.6 (8.6)	Packages 7.2.4	Bulk 7.3.3	Loading, unloading and handling 7.5.11	Operation 8.5	5.3.2.3
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
T4	TP1	LGBF		FL	2 (D/E)				S2 S20	33

Fire Safety

- Ethanol (generally main ingredient in sanitisers) is flammable.
- Due to increased demand, wineries and distilleries are assisting with producing ethanol for sanitisers.
- Increased flammable risk.
- Conduct risk assessment to identify potential hazards.


BUSINESS INSIDER | BUSINESS

Instead of Savanna and Klipdrift, some local distilleries are now making hand sanitiser

Business Insider SA
Mar 27, 2020, 06:49 AM

The Spier winery is now making hand sanitiser.

https://www.businessinsider.co.za/major-south-african-distilleries-distell-spier-wineries-producing-hand-sanitizers-in-light-of-covid-19-2020-3

General Safety Regulations –

Use and storage of flammable liquids (Section 4)

Employer shall:

- Prevent vapour of any flammable liquid to generate to such an extent that it constitutes an actual or potential fire or explosion hazard.

- Allow adequate ventilation to remove vapour:
  - > 0.5 m/s - if the air supply and extraction is horizontal
  - > 0.4 m/s - if the air supply is vertical and the extraction thereof is done through slits or a grill along the side walls at floor level
  - > 0.3 m/s - if the air supply is vertical and the extraction thereof is done through a grill over the whole of the floor area

- Allow installation of fire-resistant ducts, trunks and enclosures
  - Fire-resistance of two hours from any room, cabinet or enclosure
  - Minimum standards for Fire Safety Cabinets: SABS SANS 54470-1 Fire Safety Cabinets

https://www.labourguide.co.za/healthsafety/789-general-safety-regulations-1986/file

General Safety Regulations –

Use and storage of flammable liquids (Section 4)

Employer shall:

- Provide respirators, masks or breathing apparatus

- Allow installation of correct cabinets:
  - When open face of the cabinet is < 1 m^2: average air speed > one metre per second;
  - When open face is > 1 m^2 but < 2 m^2: average air speed > 0.75 meters per second;
  - When open face is > 2 m^2: average air speed > 0.5 meters per second

- Allow installation of doors/windows:
  - When floor area > 20 m^2 at least two separate entrances at opposite ends of the room, which shall be fitted with doors openings outwards that cannot be locked
  - When floor area > 20 m^2 at least one inspection window of strengthened and shatterproof glass that cannot be opened.

https://www.labourguide.co.za/healthsafety/789-general-safety-regulations-1986/file

General Safety Regulations –

Use and storage of flammable liquids (Section 4)

Employer shall:

- Allow provisions of adequate notices:
  - Notices preventing fire, flame or naked light or anything which may generate static electricity or any other thing which may ignite a flammable liquid or its vapour, to be used

- Allow efficient fire-fighting equipment in suitable locations in and around every building in which such substances are used, handled or stored.

https://www.labourguide.co.za/healthsafety/789-general-safety-regulations-1986/file

Is it safe to keep hand sanitizer in hot vehicle?

- US National Fire Protection Association (NFPA)
  https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2020/July-August-2020/News-and-Analysis/Dispatches/Briefs

- "…at room temperature and above, hand sanitizer can ignite if met with an ignition source like a flame—many people misinterpreted [this] to mean it can ignite purely from the heat inside a hot vehicle, which is false."

- "…When a liquid's flashpoint is reached, the liquid starts to give off enough vapors to ignite in air—but those vapors still need to be met with an ignition source to catch fire."

- …"The ignition temperature is in excess of 700 ºF [> 300 ºC]. Studies show a vehicle sitting in the scorching summer sun won't get above 200 ºF [~ 100 ºC]."

- "Experts say alcohol-based hand sanitizer is flammable, but can only ignite if a flame is introduced. Although leaving small amounts of ABHS in your car does not pose a significant fire risk, it should not be kept in vehicles because high temperatures can lower its disinfectant ability."

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Thank you