

# MATERIAL SAFETY DATA SHEET

Description: SAF KLENSAN Revision Number: 02

Document Number: MSDS K004



## CLEANER, DESCALER AND STERILIZER FOR FOOD PROCESSING AREAS AND EQUIPMENT

### GENERAL

SAF-KLENSAN is a low pH product for the cleaning, descaling and sterilising of dairies, butcheries, breweries and other food processing areas and equipment. The raw materials used in SAF-KLENSAN are suitable for use in food processing areas.

### FORMULATION

SAF-KLENSAN is based on strong chelating and powerful buffering acids, anionic and non-ionic surfactants, glycol solvents, powerful bactericides and fungicides approved for use where food is processed. The antifoam, supplied where necessary, contains a food approved silicone emulsion.

### PRODUCT DESCRIPTION

TEST	UNIT	SPECIFICATION
Appearance		Clear blue liquid
Density	g/cm <sup>3</sup>	1,07 - 1,10
Acidity	cm <sup>3</sup> 1N KOH/cm <sup>3</sup>	3,5 - 4,5
Detergent content	%	12

### PROPERTIES

1. Extremely effective bacterial and fungal killing power.
2. Excellent detergent properties to emulsify and solubilise fat and oil.
3. Strongly buffered acid to remove scale millstone and rust deposits.
4. Cleans and sterilises in one action.
5. Contains no chlorine, safe to use on stainless steel.
6. Contains active anticorrosion agents - can be used on mild steel.
7. Safe to use - contains strong but not aggressive acids.

Enhances the shine of metal surfaces

### COMPLIES WITH SANS 1828

Prepared by: Sabelo Dladla  
Reviewed by: Doug Cutter  
Status: Issued

Approved by: Doug Cutter  
Revision Date: 15 February 2017  
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## **APPLICATION - Dairy cleaning (Routine)**

**NOTE:** If the milk is to be processed (cheese yoghurt, etc.) SAF-KLENSAN is not recommended due to its powerful bacterial killing power.

Circulate a 2% (1:50) solution of SAF-KLENSAN in warm water through the whole of the milk carrying system until the installation appears clean (15 minutes). Drain the system but do not rinse until milking is about to commence. One 10-minute rinse with fresh clean water is sufficient to remove all traces of SAF-KLENSAN from the system, which will have been kept clean and sterile by the remaining layer before rinsing. If foaming is a problem in the system (especially where vacuum is applied) add 1% (1:100) of approved Saf-Defoamer to the 2% (1:50) SAF-KLENSAN solution.

### **Dairy cleaning (Initial)**

Clean as above but use 4% (1:25) solution. Several cleaning cycles may be necessary initially to get the equipment to an acceptable condition.

### **Tanks and Floors**

Dilute SAF-KLENSAN up to 2% (1:50) with water. Very fatty areas may need a more concentrated solution and warm water will assist. The solution may be applied by sprayer, mop, cloth etc. onto surface to be cleaned. Agitate with a brush if necessary. Rinse with water.

### **Butchery and Cold Storage Cleaning**

A 2% (1:50) SAF-KLENSAN solution cleans worktables, floors, walls and drains rapidly and leaves them fat free, bacterial and fungi free. Very fatty areas may need a more concentrated mix and warm water will assist.

### **Moulds on Showers**

A 1: 10 dilution is recommended, a lower dilution or (undiluted form) might even be required in cases of excessive hardened moulds.

## **ADVANTAGES**

SAF-KLENSAN is used at a 2% (1:50) concentration in water in all dairy and butchery cleaning applications and will greatly reduce the chance of bacterial spoilage due to contamination caused by build-up in the pipe lines and in difficult to clean equipment.

SAF-KLENSAN contains rust-inhibitors and will not attack expensive plant equipment. As it does not contain chlorides or chlorine derivatives, it will not attack stainless steel.

At normal usage levels - 2% and above - SAF-KLENSAN gives complete bacterial protection against:

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*Aerobacter aerogenese*  
*Bacillus mageterium*  
*Bacillus subtillis*

*Mycobacterium ranae*  
*Pasteurella multocida*  
*Pasteurella pseudotuberculosis*

*Bacillus mycoides*  
*Desulfovibrio desulfuricans*  
*\*Escherichia coli*  
*Gaffkya tetragena*  
*Lactobacillus acidophilus*  
*Micrococcus flavus*  
*Shingella dysenteriae*

*\*Pseudomona aeruginosa*  
*Pseudomonas flourescens*  
*Proteus vulgaris*  
*\*Staphylococcus aureus*  
*Streptococcus faecalis*  
*Streptococcus hemolyticus*

THE RECOMMENDATIONS CONTAINED HERE-IN IS BASED ON LABORATORY TESTS AND INFIELD USE EXPERIENCE, AND ARE TO THE BEST OF OUR KNOWLEDGE ACCURATE. SINCE TERMS AND CONDITIONS OF ACTUAL USE ARE BEYOND OUR CONTROL, ALL RECOMMENDATIONS ARE MADE WITHOUT WARRANTY, EXPRESS OR IMPLIED.

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## Company Details

Name	S.A.F.I.C (PTY) LTD	Tel:	+27 11 406 4000
Address	32 Steele Street, Steeledale, Jhb	Fax:	+27 11 406 4252
Postal Address	PO BOX 1754, Alberton North, 1450	e-mail:	<a href="mailto:technical@safic.co.za">technical@safic.co.za</a>

## 1. Product Identification

Trade Name	SAF-KLENSAN	Product code: K004
Chemical Family	Phosphoric acid, non-ionic surfactants, glycols & bactericide	
Chemical Name	Formulated chemical	
Product Use	Cleaning, descaling & sterilising of food processing equipment areas.	
UN number	1805 (based on hazardous component)	

## 2. Composition

CAS No.	Hazardous Components	Approx. %	OSHA PEL
7664-38-2	Phosphoric acid 80%	<30	TWA 1 mg/m <sup>3</sup> ; STEL 3 mg/ m <sup>3</sup>
EEC classification	Corrosive (C), SAF – KLENSAN		
R Phrases	R23/25 R35 R51, SAF – KLENSAN		

## 3. Hazards Identification

<b>Main hazard</b>	<b>Corrosive liquid</b>
Fire	Non-flammable
Inhalation	Spray application – burning of mucous membranes, irritation of nose & eyes
Skin contact	Tingling, burning
Eye contact	Burning, watering of eyes, possible serious damage to eyes.
Ingestion	Nausea, vomiting, burns to mouth and throat.

## 4. First Aid Measures

Inhalation	Move patient to fresh air and allow them some water
Skin contact	Immediately rinse area well with water. Seek <b>medical attention</b> if discomfort persists.
Eye contact	Flush eyes with water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids and rolling eyeballs. <b>Seek medical attention.</b>
Ingestion	Rinse mouth with water, and allow patient as much water as possible. Do not induce vomiting, as this may cause further injury. <b>Seek medical attention.</b> Treat for acid & QAC ingestion.

## 5. Fire Fighting Measures

Extinguishing media	Product non-flammable. Use extinguishing agents suitable for surrounding fire.
Special hazard	Product will generate heat in contact with water.
Protective clothing	Approved self contained breathing apparatus should be utilised or equivalent equipment.

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## 6. Accidental Release Measures

Extinguishing media	Product non-flammable. Use extinguishing agents suitable for surrounding fire.
Special hazard	Product will generate heat in contact with water.
Protective clothing	Approved self contained breathing apparatus should be utilised or equivalent equipment.

## 7. Handling & Storage

Handling	Handle product with care – wear protective clothing and equipment at all times to minimise personal exposure.
Storage	Store in a cool dry area. Keep containers sealed.

## 8. Exposure Controls/Personal Protection

Workers should have access to an eye wash fountain.
If the specific application may result in splashing, safety goggles (VNC11 – supplier – MSA) should be supplied.
<b>NEOPRENE</b> gloves (Technic 420 – supplier – MSA) should be utilised
Work in a well-ventilated area or 6300 type mask/6059 cartridge (3M – supplier) should be utilised where ventilation isn't adequate.

## 9. Physical and Chemical Properties

Appearance	Clear blue liquid
Density	1.07 – 1.10 g/cm <sup>3</sup>
Acidity	3.5 – 4.5 cm <sup>3</sup> KOH/cm <sup>3</sup>
Solubility (water)	100 %

## 10. Stability and Reactivity

Stability	Stable under normal conditions.
Incompatible materials	Product will generate heat in contact with water.
Hazardous decomposition products	When heated to decomposition it may emits toxic fumes of POx

## 11. Toxicological Information (based on phosphoric acid)

Acute toxicity - oral	LD50: 1654 mg/kg, rat.
- dermal	LD50: 2962 mg/kg, rabbit.
Carcinogenicity	No evidence of carcinogenic properties
Mutagenicity	No evidence of mutagenic effects
Teratogenicity	No evidence of teratogenic effects
Reproductive hazard	Not expected to impair fertility

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### 12. Ecological Information (based on phosphoric acid)

Aquatic toxicity – rainbow trout	LC50 :10 mg/l
Aquatic toxicity – daphnia	May be toxic to aquatic organisms at very large quantities, since that will result to a drop in pH value for water.
Aquatic toxicity – algae	>1000 mg/l
Biodegradability	Not expected to biodegrade, but when neutralised salt and water is formed which is harmless to the environment.
Bio accumulation	There's a no possibility of bio accumulation but can lower the pH which can be fatal to aquatic organisms.

### 13. Disposal Considerations

Disposal method	Neutralise the product before disposing of it using SAF – EA NEUTRALISER for small quantities. Prevent discharge of large quantities to sewerages & waterways
First neutralise the product with SAF – EA NEUTRALISER before containing, flush area with water. Dispose as per agreed local government method for large quantities.	
Disposal of packaging	Recycle or provide to drum collectors or recovers.

### 14. Transport Information

UN No:	1805
Substance identity no	K004
ADR/RID class	Class 8: Corrosive liquid
IMDG – packaging group	III
IMDG Code	8194
Marine Pollutant	No, but toxic to aquatic organisms.
IMO/IMDG Classification	Class 8: Corrosive liquid
IATA Classification	Class 8: Corrosive liquid

### 15. Regulatory Information

EEC-hazard classification	Corrosive {C}
Risk phrases	R23/25 R35 R51
Safety phrases	S24/25 S36/37/38 S56

### 16. Other Information

References: SABS 0265: 1999, SABS 0228: 1995, SABS ISO 11014-1: 1994, M.S.D.S. (Suppliers of raw's)
Issued by: Sabelo Dladla
<b>EMERGENCY NUMBERS: 011 406 4000 / 082 412 2298</b>

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The information in this MSDS is based on current knowledge and experience at the date of publication. This MSDS summarises our best knowledge of the health and safety hazard information of the product and is intended only as a guide to the appropriate precautionary handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification of the product. The data relates only to the specific product designated, and does not relate to use of the product in combination with any other material or use of the product in any process. The data is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability for fitness for a particular purpose is made with respect to the product, its composition, its safety or the information contained in this MSDS sheet.

## APPENDIX A

Revision Date (dd/mm/yy)	Issued By	Revision History		Revision No.
		Description	DCN No.	
11/02/2011	Technical Manager	New Issue	MSDS K004	00
20/05/2013	Technical Manager	Document review and change of Company logo.	MSDS K004	01
15/02/2017	Operations Director	Document Review	MSDS K004	02

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