

## MATERIAL SAFETY DATA SHEET



Description: SAF MET Revision Number: 1

Document Number: MSDS M003

### DERUSTER AND CONCRETE CLEANER

#### GENERAL

SAF-MET is a solution of acids for the cleaning and passivating of most metal. SAF-MET is also suitable for etching and degreasing of concrete floors, especially for preparing the area prior to painting.

#### FORMULATION

SAF-MET is based on a blend of phosphoric acid and a selection of non-ionic surfactants, alcohol's and glycolethers.

#### PRODUCT DESCRIPTION

TEST	UNIT	SPECIFICATIONS
Appearance		Clear yellow liquid
Density	g/cm <sup>3</sup>	1,10 - 1,15
Acidity	cm <sup>3</sup> 1N KOH/cm <sup>3</sup>	6,5 - 7.5
Flashpoint	□C	Nil

#### PROPERTIES

- \* Degreases, etches and de-rusts in one process.
- \* Highly concentrated - dilutes up to 1:5.
- \* Economical - may be used repeatedly.
- \* Can be heated to obtain faster action.
- \* Also suitable for stainless steel and aluminium.
- \* Safe to use - no excessive fumes.
- \* Contains inhibitors to protect metal surfaces.

#### APPLICATION

##### **Metal treatment:**

Dilute SAF-MET up to 1:5.

The product can be used in a dip tank process or it can be brushed or sprayed onto the area to be treated. Allow time for the reaction and rinse well with water.

Apply a protective coating to prevent rusting.

**Directions of application** – Depending on the degree of rust or corrosion the product can be diluted as recommended above, the product can be sprayed or applied by brush to the surface to be cleaned. Reaction time of 5 – 20 minutes should be allowed. Rinse the derusted surface after each application. The higher the concentration of the product, the less contact time required. The product can be used in a dip tank process for a maximum duration of 30 minutes on a single application.

**Prepared by:** Sabelo Dladla

**Reviewed by:** Doreen Gwanyuki

**Status:** Issued

**Approved by:** Doug Cutter

**Revision Date:** 14 November 2014

**Issue Date:** 14 November 2014

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Avoid soaking of inferior metals or alloys for long hours. Always rinse the treated surface after each application.

### **Concrete treatment:**

For heavy duty degreasing, mix SAF-MET 1:1 with SAF-HEAVY.

For light degreasing/etching, dilute SAF-MET up to 1:3 with water.

Directions for application – Mix as mentioned above and pour the mixture into the surface to be cleaned or itched and allow 5 – 10 minutes contact time. Agitate using a hard broom, mop or any suitable material and rinse thoroughly with clean water using a pressure washer, hosepipe or buckets of water. Allow area to dry completely.

### **NOTE:**

Protective clothing and equipment should be worn when working with SAF-MET.

**THE RECOMMENDATIONS CONTAINED HERE-IN ARE 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

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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-MET	Product code:	M003
Chemical Family	Deruster (containing phosphoric acid, alcohol & non-ionic surfactants)		
Chemical Name	Formulated chemical		
Product Use	Metal cleaner (derusting) and concrete cleaner		
UN number	1805		

### 2. Composition

CAS No.	Hazardous Components	Approximate %	OSHA PEL
7664-38-2	Phosphoric acid	30 - 50	TWA 1 mg/m <sup>3</sup> ; STEL 3 mg/ m <sup>3</sup>
71-23-8	Propyl alcohol	20 - 40	TWA 200 ppm; STEL 250 ppm
EEC classification	Corrosive (C), SAF – MET		
R Phrases	R23/25 R35 R51, SAF – MET		

### 3. Hazards Identification

<b>Main hazard</b>	<b>Corrosive</b>
Inhalation	Burning of mucous membranes, irritation of nose & eyes
Skin contact	Tingling, burning, redness, painful.
Eye contact	Burning watering of eyes, blurred vision; avoid eye contact at all times.
Ingestion	Nausea, vomiting, burning of throat and mouth, stomach pain.

### 4. First Aid Measures

Inhalation	Move patient to fresh air and allow them some water
Skin contact	Immediately rinse area well with water. In the case of blisters, seek <b>medical attention</b> .
Eye contact	Flush eyes with water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids and rolling eyeballs. Even if there is no pain, <b>seek medical attention</b> as delayed damage may occur.
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>

### 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.

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Protective clothing	Approved self contained breathing apparatus should be utilised or equivalent equipment.
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### 6. Accidental Release Measures

Personal precautions	Neutralise the product before disposal. The product will etch unsealed concrete. On uncoated metal surfaces, flush off with water to prevent rusting.
Environmental precautions	As per good environmental management practices, prevent contamination of watercourses or ground with large quantities of undiluted product
Small spills	Neutralise with SAF – EA NEUTRALISER and flush residue with plenty of water.
Large spills	Dyke ahead of liquid spill. Prevent the discharge of large amounts of concentrated product into sewerage, and watercourses. Neutralise with SAF – EA NEUTRALISER and dispose small quantities to effluent with plenty water.

### 7. Handling & Storage

Handling	Handle product with care – wear protective clothing and equipment.
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 (such as VNC11 – supplier – MSA) should be supplied.
Protective gloves (Household rubber gloves are adequate if undamaged, <b>NEOPRENE</b> Technic 420 – supplier – MSA are recommended) should be worn at all times.
Work in a well-ventilated area or a mask and cartridge appropriate for phosphoric acid (such as 6300 type mask/6059 cartridge (3M – supplier)) should be utilised where ventilation is not adequate.

### 9. Physical and Chemical Properties

Appearance	Clear yellow liquid
Density	1.10 – 1.15 g/cm <sup>3</sup>
Acidity	6.5 – 7.5 cm <sup>3</sup> KOH/cm <sup>3</sup>
Solubility (water)	100 %

### 10. Stability and Reactivity

Stability	Stable under normal conditions
Incompatible material	Reacts with alkalis to release toxic corrosive fumes and may etch glass, concrete and cast iron
Hazardous decomposition products	When heated the product decomposes to toxic corrosive fumes. Suitable respiratory system should be used when extinguishing fire.

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

Toxicity	Acute oral: LD50: 1530 mg/kg, rat
	Acute dermal: LD50: 2740 mg/kg, rabbit
Carcinogenicity	No evidence of carcinogenic properties.
Mutagenicity	No evidence of mutagenic effects
Teratogenicity	No evidence of teratogenic effects
Reproductive effects	Not expected to impair fertility.

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

Aquatic toxicity – rainbow trout	Acidification of water may be harmful to aquatic organisms.
Aquatic toxicity – daphnia	Acidification of water may be harmful to aquatic organisms.
Aquatic toxicity – algae	Acidification of water may be harmful to plants and other living organisms.
Biodegradability	Not expected to biodegrade, 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	M003
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 S37/39

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### 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

**EMERGENCY NUMBERS: 011 406 4000 / 082 412 2298**

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.

### APPENDIX A

Revision Date (dd/mm/yy)	Issued By	Revision History		Revision No.
		Description	DCN No.	
18/02/2011	Technical Manager	New Issue	MSDS M003	00
14/11/2014	Operations Manager	Generalisation of Safety Equipment	MSDS M003	01

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