SAFETY DATA SHEET

Description: SAF ELEC	**Revision Number:** 02
Document Number: MSDS E003	

ELECTRIC SAFETY SOLVENT

GENERAL

SAF-ELEC is an electrical cleaning and demoisturising solvent. SAF-ELEC can dissolve substantial amounts of surface water and will dry a very wet electrical part quickly.

FORMULATION

SAF-ELEC contains specially selected solvents that are low in aromatics, toxicity and in anaesthetic effect, to ensure the lowest damage to plastic and safest working atmosphere.

PRODUCT DESCRIPTION

TEST	UNIT	SPECIFICATION
Appearance		Clear colourless liquid
Odour		Chlorinated solvent
Density	g/cm^3	1,00 - 1,05
Flash point	^oC	40

PROPERTIES

* SAF-ELEC has a relatively high flash point (40 C) and will not ignite unless heated to excessive temperature. As D.C. equipment has very hot brushes while running we do not recommend spraying these while live.
* SAF-ELEC has a high threshold limit value (low toxicity in use) and will not cause anaesthesia under normal conditions.
* SAF-ELEC will absorb water and will remove water from a wet electrical surfacing restoring surface resistance in a few minutes.
* SAF-ELEC is formulated so that the dirt, grease, carbon and dust will be rapidly removed but the electrical varnish and insulating layers will not be damaged. Low quality plastics like polystyrene will be attacked by SAF-ELEC but this is seldom used in modern electrical equipment. High quality plastics like polycarbonate or phenolic mouldings are not damaged.

SAF-ELEC is non-conductive and has a di-electric strength of 75 000 volts per cm. This means that SAF-ELEC can be sprayed directly onto live electrical equipment without the possibility of the solvent causing arcing back to the operator.

The product evaporates completely, leaving no residue.
SAF-ELEC is non-corrosive.

APPLICATION

SAF-ELEC is essentially designed for cleaning all types of electrical equipment especially industrial circuits and motors and automobile electrical auxiliaries.

* Blow out or mechanically remove lint, dust and loose particles.
* Dip into or spray on SAF-ELEC to remove dirt and/or moisture.
* Allow SAF-ELEC to evaporate.
* If dry air is not available, do not blow out but let the item drip dry.
* Lubricate bearings.

The unit will then be ready for service.

DEMONSTRATION:

A very effective demonstration is to take a switch and attach a "mega" to both terminals and put the switch in the off position.
Flood the switch with water and show that the resistance is zero (dead short) - shake out the excess water, pour on some SAF-ELEC and leave for 1 minute. Shake out the excess SAF-ELEC and retest with the mega. The reading should approach 1 megohm and with further treatment with SAF-ELEC, this will pass 1 megohm. (This is accepted as complete insulation).

CAUTION:

We do not recommend that live equipment be sprayed with SAF-ELEC as the powerful dirt and carbon removal properties work to loosen these conducting materials, which can fall across an open switch causing arcing. This can ignite the solvent under the high temperatures of the arc and cause damage to the equipment. SAF-ELEC itself will not cause arcing due to its high di-electric strength.

SAF-ELEC may be harmful to inferior quality plastics.

SAF-ELEC is not recommended for electronic equipment.

SAF- ELEC
DRYING TIME

Application	Drying time (min)	Diameter (mm)	Temperature	Mass (g)
Liquid (non ventilated)	15.23	130.0	20.0 °C	0.30
Liquid (well ventilated)	3.29	130.0	20.0 °C	0.30
Damp cloth	2.00	N/A	20.0 °C	N/A

SAFETY DATA SHEET

Description: SAF ELEC	**Revision Number:** 02
Document Number: MSDS E003	

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.

SAFETY DATA SHEET

Description: SAF ELEC	**Revision Number:** 02
Document Number: MSDS E003	

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:	technical@safic.co.za

1. Product Identification

Trade Name	SAF- ELEC	Product code: E003
Chemical family	Chlorinated and aromatic solvents	
Chemical Name	Formulated Chemical	
Product Use	Electrical Safety Solvent	

2. Composition

CAS No.	Hazardous Components	Approx. %	OSHA PEL
75-09-2	Methylene Chloride	20 -30	TWA: 500 ppm, CL: 1000 ppm
127-18-4	Tetrachloroethylene	30 – 50	TWA: 100ppm, CL: 200ppm
64742-94-5 64742-88-7	Aromatic hydrocarbon mixture	40 - 60	ACGIH (LTEL): 100 ppm
EEC classification	Flammable (F)		
R Phrases	R10 R22, R36/37/38, R51		

3. Hazards Identification

Main Hazard	Flammable & Harmful
Fire	Flammable (Flash Point 40°C)
Inhalation	Anaesthetic affect, avoid inhalation of product, use in a well-ventilated area, suitable masks should be utilised at all times when handling product.
Skin contact	Defatting, can be absorbed through skin, wear suitable gloves at all times when handling product.
Eye contact	Burning, can cause serious damage to eyes, face protection unit should be worn at all times.
Ingestion	Nausea, Vomiting, CNS depression, serious damage to lungs and other organs.
Other	Overexposure may cause respiratory irritation, dizziness, and loss of consciousness, nausea. Always handle with care; protection equipment should be worn at all times.

4. First Aid Measures

Inhalation	Move patient to fresh air/ Give artificial respiration and call a doctor.
Skin contact	Wash area thoroughly with soap and water. Apply cream or polyethylene glycol.
Eye contact	Flush eyes with running water for 15 minutes. Seek medical attention.

Ingestion	If swallowed, do not induce vomiting. Call doctor immediately. Harmful if swallowed.

5. Fire Fighting Measures

Extinguishing media	Extinguish with carbon dioxide (CO_2), dry powder and foam. Suitable respiratory unit should be utilised.
Special hazards	Toxic corrosive fumes will be liberated when burning.
Protective clothing	Self contained breathing apparatus (NIOSH approved) or equivalent should be utilised.

6. Accidental Release Measures

Personal protection	The product is harmful on inhalation, skin contact and ingestion.
Environmental precaution	The product is harmful to aquatic organisms.
Small spills	Do not discharge to effluent. Remove excess with absorbent material and flush residue with water. Ventilate area well.
Large spills	Prevent the discharge of large amounts of concentrated product into sewerage, and watercourses. Remove excess with absorbent material and flush residue with water. Ventilate area well. Dispose off at waste disposal company.

7. Handling & Storage

Handling	Normal handling procedure for flammable harmful solvents to minimise personal exposure.
Storage	Store in a cool dry area. Keep containers sealed. No special requirements.

8. Exposure Controls/Personal Protection

Workers should have access to an eye wash fountain.

HANDLE PRODUCT WITH CARE AT ALL TIMES.

A) The below RESPIRATORY KIT is manufactured by 3M and is suitable for use on this product

1) Full Face Respirators – 3M6800 – where product splashing is possible
2) Half mask – 3M6300 – where product splashing is unlikely
3) Combination Cartridge Type: ABEK1 – 3M6059
4) Pre – filter N95 – 3M5N11
5) Retainer – 3M501
6) Note as soon as one experiences **difficulty in breathing** when wearing a mask, a NEW cartridge (same as the replaced one) and **pre-filter** is required. ADEQUATE VENTILATION IS HIGHLY RECOMMENDED AT ALL TIMES EVEN WHEN USING THE ABOVE RESPIRATORY KIT.

B) NITRILE gloves (Ultranitril 492 supplier – MSA) **must** be used when handling SAF – ELEC.

C) Safety shoes and overalls are recommended when handling this product.

9. Physical and Chemical Properties

Appearance	Clear colourless liquid
pH	Not applicable
Density	1.00-1.05 g/cm^3
Non volatile	Nil % m/m
Flash point	40 degrees Celsius (Closed cup)

10. Stability and Reactivity

Stability	Stable under normal conditions.
Avoid the following conditions:	Heat, Sparks, Flame and build up of electricity.
Hazardous decomposition products	When burning toxic corrosive fumes of hydrogen chloride and phosgene may be liberated.

11. Toxicological Information (based on Tetrachloroethylene)

Toxicity	Acute oral: LC50: 2629 mg/kg, rat
	Acute dermal LC50: 810 mg/24H SEV, rabbit
Carcinogenicity	Confirmed carcinogen
Mutagenicity	Human mutation data reported.
Teratogenicity	Teratogenic effects reported.

12. Ecological Information (based on Tetrachloroethylene)

Aquatic toxicity – rainbow trout	96 hr LC50: 18 – 21 mg/l, Toxic to aquatic organisms.
Aquatic toxicity - daphnia	LC50: 3.3 – 18 mg/l, Toxic to aquatic organisms.
Aquatic toxicity - algae	Very toxic to plants and aquatic life.
Mobility	Expected to leach to underground water on excessive spillages.
Biodegradability	Not expected to biodegrade.
Bio accumulation	There's a possibility of bio accumulation

13. Disposal Considerations

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be stringent than regional or national requirements and must be complied with.	
Disposal of packaging	Do not puncture, vent in a safe place away from sparks and fire. Send container to drum recovers or recyclers.

14. Transport Information

Substance identity no.	E003
Marine Pollutant	Yes
ADR/RID class	Class 3 flammable liquid
IMDG class	Packaging group III

IATA class	Class 3 flammable liquid

15. Regulatory Information

EEC-hazard classification	Flammable (F)
Risk phrases	R10 R22, R36/37/38, R51.
Safety phrases	S24/25, S36/38, S61

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 sheet.

APPENDIX A

Revision Date (dd/mm/yy)	Issued By	Revision History		Revision No.
		Description	DCN No.	
18/02/2011	Technical Manager	New Issue	MSDS E003	00
20/05/2013	Technical Manager	Document review and change of Company logo.	MSDS E003	01
25/01/2017	System and Food & Beverage Specialist	Document Review	MSDS E003	02

SAFETY DATA SHEET

Description: SAF ELEC	**Revision Number:** 02
Document Number: MSDS E003	

Prepared by: Sabelo Dladla	**Approved by:** Doug Cutter
Reviewed by: Zanele Selala	**Revision Date:** 25 January 2017
Status: Issued	**Issue Date: 25 January 2017**