

MATERIAL SAFETY DATA SHEET



Description: SAF DEM	Revision Number: 02
Document Number: MSDS D002	

DEMOISTURISER AND ANTI-CORROSION TREATMENT

GENERAL

SAF-DEM is an oil-based product that has a strong affinity for metal as well as coated surfaces. A very effective water displacing, non-staining, rust preventative will not emulsify even in the presence of alkali cleaners.

FORMULATION

SAF-DEM is a blend of sulphonated oils, rust preventatives and water-displacing fluids dissolved in a solvent that will evaporate to leave a thin protective film behind.

PRODUCT DESCRIPTION

TEST	UNIT	SPECIFICATION
Appearance		Clear brown liquid
Density	g/cm ³	0,77 - 0,80
Emulsifiability		None

PROPERTIES

- * Displace moisture - saves down time and repairs.
- * Seals, protects and improves the electrical properties of equipment exposed to moisture.
- * Di-electric strength in excess of 80 000 volts per cm.
- * Reduces sparking and arcing of high voltage parts.
- * Adheres strongly to metal - will not emulsify in water.
- * Excellent corrosion protector - complies with Military Specification Mil-C-16173 D-III.
- * Penetrates, lubricates and seals all surfaces against salt air, gasses, corrosive fumes etc.

Prepared by: Doug Cutter	Approved by: Doug Cutter
Reviewed by: Zanele Mthimunye	Revision Date: 26 Jan 2017
Status: Issued	Issue Date: 26 Jan 2017

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APPLICATION

Descal metal piece using SAF-MET or SAF-DOX as desired and rinse to remove all carried over acid. Dip in or spray on SAF-DEM and allow the coating to dry. Corrosion protection will be immediate and all the surface water will have been displaced. SAF-DEM is very useful for freshly machined parts that need to be preserved. The protective film left after evaporation of the solvent is ultra-thin, non-staining and highly protective.

SAF-DEM is also successfully used to de-water and protect electrical equipment that runs in damp conditions. This often leads to shorting to earth and the burning out of the equipment. SAF-DEM gives protection that complies with the USA army spec MIL-C-16173D, Grade 3, which requires greater than 30-day protection in a humidity cabinet. This is equivalent to several months exterior storage and over 1-year storage indoors. Paint coats will not adhere to SAF-DEM, so it cannot be used as a primer.

To restore electrical function of equipment after total immersion in water: first clean with SAF-ELEC and allow to evaporate. Saturate equipment with SAF-DEM (as a safety precaution, measure the resistance to ensure that safe operating conditions have been reached). SAF-DEM can be removed by using a solvent such as SAF-ELEC.

DEMONSTRATION

1. Non-Emulsifiability: Mix SAF-DEM in a test tube with water and alkali and show complete and fast separation into two layers.
2. Water displacement: Immerse a water wet steel coupon for one minute into SAF-DEM, drain off and examine for water - there will be none visible.

Store together with a similarly wetted but untreated coupon to show that SAF-DEM is very effective. This demonstration can show results in 2 hours but 1 day to 1 year will give results that are more striking.

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

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1. Product Identification

Trade Name	SAF – DEM	Product Code:	D002
Chemical Family	Sulphonated oils, glycol ether and hydrocarbon solvents		
Chemical Name	Petroleum Distillates, N.O.S (Aromatic Solvent, Glycol Ether, Methylene Chloride)		
Product Use	Displacement of water from electrical equipment.		
UN Number	1268 (based on hazardous component with the highest %)		

2. Composition

CAS No.	Hazardous Components	Approximate %	Limit
64742-88-7	Aromatic solvent	>80	ACGHI: TLV = 1000 ppm
111-76-2	Glycol ether	<10	25ppm TWA; 120 mg/m ³
75-09-2	Methylene chloride	<10	TWA: 500 ppm, CL: 1000 ppm

3. Hazards Identification

Main hazard	Flammable harmful liquid. Flashpoint Greater than 35 degrees Celsius.
Fire	The product is flammable in its liquid form but once sprayed and mixes with moisture that mixture is not flammable as such.
Inhalation	Irritant, dizziness and headache, only handle in a well ventilated area and masks which are solvent suitable should be utilised.
Skin contact	Irritant, prolonged exposure will result in defatting of skin. Can be absorbed through skin.
Eye contact	Burning, irritant, redness of eyes, safety goggles should be utilised when handling product.
Ingestion	Nausea, vomiting and possible serious damage to lungs.

4. First Aid Measures

Inhalation	Remove patient to fresh air. Give water or milk.
Skin contact	Rinse affected area with water; apply hand cream if necessary to replenish moisture.
Eye contact	Flush with running water for at least 15 min, irrigate eyes thoroughly while lifting eyelids and rolling eyeballs. If discomfort persists, seek medical attention.
Ingestion	Do not induce vomiting. Seek medical attention immediately.

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5. Fire Fighting Measures

Liquid format: Extinguishing media: carbon dioxide, dry powder, and foam.	
Special hazards	Toxic fumes will be liberated when burning.
Protective clothing	Self contained breathing apparatus (NIOSH approved) or equivalent should be utilised.

6. Accidental Release Measures

Personal precaution	Avoid prolonged skin contact; wear gloves when handling large quantities.
Environmental precaution	Do not discharge in sewerages and storm water drains as per good environmental environmental management.
Small spills	Remove excess with absorbent material and flush residue with water.
Large spills	Dyke ahead of liquid spill for later disposal. Prevent the discharge of large quantities of concentrated product into sewerage and watercourses.

7. Handling & Storage

Handling	Normal handling procedure for solvent based products to minimise personal exposure.
Storage	Store in a cool dry place. Keep container closed. No special requirements.

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 utilised.	
Nitrile gloves (Ultranitril 492-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 brown liquid
Flash Point	Greater than 35 degrees Celsius
Density	0.77 – 0.80 g/cm ³
Solubility (water)	Insoluble

10. Stability and Reactivity

Stability	Stable under normal conditions.
Conditions to avoid	Strong oxidizers heat and sparks.
Hazardous decomposition products	Incomplete combustion will generate carbon monoxide and dioxide while other hazardous gases will be liberated.

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11. Toxicological Information (based on aromatic hydrocarbon)

Toxicity	Oral: LD50 > 5000 mg/kg, rat.
	Dermal: LD50: 5 ml/kg, rabbit.
Carcinogenicity	Not listed as carcinogenic by IARC, OSHA, ACGIH, and NTP.
Mutagenicity	No evidence of mutagenic effects.
Teratogenicity	No evidence of teratogenic effects.

12. Ecological Information (based on aromatic hydrocarbon)

Acute toxicity – fish	The product is toxic to aquatic environment.
Acute toxicity – daphnia	The product is toxic to aquatic environment.
Acute toxicity – algae	The product is toxic to plants and living organisms.

13. Disposal Considerations

For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options	
Permissible under applicable rules, regulations, and/or laws governing your location.	
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

UN Number	(based on hazardous component with the highest %)
Substance identity no.	D002
Marine Pollutant	No, caution should be taken, the material is solvent based.
ADR/RID class	Class 3 flammable liquid
IMDG – packaging group	III
IATA class	Class 3 flammable liquid

15. Regulatory Information

EC Classification	Flammable (F)
EC Risk phrases	R10, R22, R36/37/38 R51
EC 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
EMERGENCY NUMBERS: 011 406 4000 / 082 412 2298

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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 regarding the precautionary handling, 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 and/or its composition.

APPENDIX A

Revision Date (dd/mm/yy)	Issued By	Revision History		Revision No.
		Description	DCN No.	
18/02/2011	Technical Manager	New Issue	MSDS D002	00
20/05/2013	Technical Manager	Document review and change of Company logo.	MSDS D002	01
26/01/2017	Operations Director	Update product name and flash point	MSDS D002	02

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