

MATERIAL SAFETY DATA SHEET

Description: SAF ECO FORCE Revision Number: 02

Document Number: MSDS E021



MEDIUM DUTY WATERBASED DEGREASER

GENERAL

SAF ECO-FORCE is a highly concentrated medium duty water based degreaser that has non corrosive and excellent wetting properties, this product can be used to degrease almost any hard surfaces.

FORMULATION

SAF ECO-FORCE contains exclusive chelating agents for excellent water softening; this product is highly effective even when diluted with water with high hardness. A combination of biodegradable surface active agents is included to ensure economical wetting properties in all types of oil to be removed. Maximum degreasing power is achieved through coupling agents and powerful user friendly solvents.

PRODUCT DESCRIPTION

TEST	UNIT	SPECIFICATION
Appearance		Clear BLUE liquid
Density	g/cm ³	1,03 - 1,05
pH		10.50 – 12.00
Cloud point	°C	5 max

PROPERTIES

- * SAF ECO-FORCE is highly concentrated and can be diluted up to 1:100
- * Non corrosive & non toxic
- * Non flammable & non combustible
- * Anti – redeposit ion properties
- * SAF ECO-FORCE has the unique ability to be mixed either with water or with solvents such as paraffin.

Prepared by: Sabelo Dladla
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APPLICATION

Dilutions with water:

SAF ECO-FORCE can be diluted up to 1: 100 as a floor cleaner and 1:25 for cement cleaning & degreasing

When SAF ECO-FORCE is used through a steam-cleaner, the pre-dilution in the tank should be 1:10, whereas the final dilution at the end of the nozzle should be 1:100

For heavy duty degreasing (engine cleaning etc.) dilute SAF ECO-FORCE 1:10 with water.

Light – Medium duty dilute SAF ECO-FORCE from 1:100 – 1:50

Paraffin Mixture:

To combine the solvent properties of Paraffin with the rinseability and detergent cleaning strength of SAF ECO-FORCE in an economical mixture for cleaning engines, parts-washing etc. mix 3 parts of SAF ECO-FORCE with 10 parts Paraffin & 10 parts water.

N.B. This emulsion has to be shaken regularly to avoid separation

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 ECO-FORCE	Product code : E021
Chemical Family	Water based degreaser (containing surfactants, sequestering & coupling agents.)	
Chemical Name	Formulated chemical	
Product Use	Cleaning and degreasing of most hard surfaces	

2. Composition

CAS No.	Hazardous Components	Approximate %	OSHA PEL
1310-58-3	Potassium hydroxide	<10	CL 2 mg/m ³
111-76-2	Glycol ether	<10	25 ppm TWA, 120mg/m ³
EEC classification	Irritant (Xi), SAF ECO-FORCE		
R Phrases	R36/37/38, SAF ECO-FORCE		

(No free potassium hydroxide available in formulation – reacted with sulphuric acid)

3. Hazards Identification

Main Hazard	Irritant
Fire	Non-flammable
Inhalation	Excess spray – coughing
Skin contact	Irritant. Prolonged or frequent contact may lead to defatting of skin
Eye contact	Irritant. Burning
Ingestion	Symptom: nausea

4. First Aid Measures

Inhalation	Move patient to fresh air.
Skin contact	Rinse area well with water. If necessary, use a hand-cream to replenish moisture.
Eye contact	Flush eyes with water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids and rolling eyeballs. If irritation persists, seek medical attention.
Ingestion	Rinse mouth with water, and allow patient as much water as possible. If large quantities have been swallowed obtain medical attention.

5. Fire Fighting Measures

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Extinguishing media	Product is non-flammable, use extinguishing agents suitable for surrounding fire.
Special hazard	None known
Protective clothing	Approved self contained breathing apparatus should be utilised or equivalent equipment.

6. Accidental Release Measures

Extinguishing media	Product is non-flammable, use extinguishing agents suitable for surrounding fire.
Special hazard	None known
Protective clothing	Approved self contained breathing apparatus should be utilised or equivalent equipment.

7. Handling & Storage

Handling	Normal handling procedure for heavy duty detergents 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.
If the specific application may result in splashing, safety goggles (VNC11 supplier – MSA) should be utilised.
Neoprene 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
pH	10.00 – 12.50
Density	1.03– 1.05g/cm ³
Cloud point	5 max
Solubility (water)	100 %

10. Stability and Reactivity

Stability	Stable under normal conditions.
Incompatible materials	Strong acids
Hazardous decomposition products	None known

11. Toxicological Information (based on KOH)

Toxicity	Skin (human): 50 mg/24H SEV.
	Acute oral: LD50 = 365 mg/kg, rat
Carcinogenicity	No evidence of carcinogenic properties

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Mutagenicity	No evidence of mutagenetic effects
Teratogenicity	No evidence of teratogenic effects
Reproductive hazard	Not expected to impair fertility

12. Ecological Information (based on glycol ether)

Fathead minnow	96 hr bioassay LC50: 1700 mg/l
Daphnia Magna	48 hr bioassay LC50: >1000 mg/l
Bacterial	IC50: > 5000 mg/l
Biodegradability	Biodegradation: 88 % 20 days
Other Information	The chemical nature of the surfactants needed to remove oil is detrimental to the cell surface membranes of most marine organisms. Most oil dispersants tested by the Sea Fisheries Research Institute show toxicity to sea urchin gametes in the 2 – 20ppm range. SAF ECO-FORCE falls into the normal range for oil dispersants. (1)

Taken from correspondence with the Sea Fisheries Research Institute. Reference V1/1/3/4/5. (1994)

13. Disposal Considerations

Disposal methods identified are for the product as sold. 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.
Dilute product 1000 times and run to waste with plenty of water.
When disposing of large quantities, the alkaline nature should be taken into consideration.

14. Transport Information

UN No	3082
Substance identity no	E021
ADR/RID class	Class 9: Irritant liquid
IMDG – packaging group	III
Marine Pollutant	No
IMO/IMDG Classification	Class 9 Irritant liquid
IATA Classification	Class 9 Irritant liquid

15. Regulatory Information

EEC-hazard classification	Irritant (Xi)
Risk phrases	R36/37/38
Safety phrases	S24/25 S36

16. Other Information

References: SABS 0265:1999, SABS 0228: 1995, SABS ISO 11014-1:1994, Raw Material Manufacturer's MSDS's
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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.	
14/11/2011	Technical Manager	New Issue	MSDS E021	00
20/05/2013	Technical Manager	Document review and change of Company logo.	MSDS E021	01
27/10/2014	Operations Manager	pH Specification narrowed	MSDS E021	02

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