



## Betman-A E882

### Alkaline Ultrasonic Cleaner (Concentrate)

**DESCRIPTION:** Esma-Betman-A E882 is a near neutral detergent. When used in conjunction with Esma ultrasonic cleaning and rinsing units, Esma-Betman Cleaner will aid in the removal of oils, dirt, grime and particulates.

Esma-Betman Cleaner is a high-foaming, neutral cleaning agent designed for use in industrial ultrasonic cleaners. This product is suitable for use on stainless steel, not recommended for use on steel. Esma-Betman-A offers convenience and economy as a concentrated liquid cleaner and is designed for non-turbulent ultrasonic cleaning. Esma-Betman-A is free-rinsing and safe to use. Esma-Betman-A does not contain dyes, perfumes, or preservatives for complete rinsing of instruments and equipment.

#### PROPERTIES:

Appearance	Clear
pH (100%)	Neutral
Odor	Mild
Foaming	Foaming
Rinsing	Complete
Lbs./Gal	8.36 (Gravity: 1.002)

#### DIRECTIONS:

For use in ultrasonic tanks dilute to 6% solution (2 oz. per quart)

**NOT** for use in automatic ultrasonic wash machines.

Temperature: Ambient - 200 °F

#### PRECAUTIONS:

May cause irritation to the eyes and skin upon contact.

**\*\*AVOID EYE CONTACT\*\***

Wear goggles or safety glasses, wash thoroughly after handling. Swallowing causes nausea, vomiting. Keep out of reach of children. Refer to MSDS.



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# MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

MANUFACTURER'S NAME ESMA Chemicals, Inc.		EMERGENCY TELEPHONE NO. 312-433-6116
ADDRESS (Number, Street, City, State, and ZIP Code) 2689 Waukegan Ave. Highland Park, IL 60035		
CHEMICAL NAME AND SYNONYMS Alkyloxypolyethylenoxyethanol		TRADE NAME AND SYNONYMS Betman A E882
CHEMICAL FAMILY Polyethylene Glycol Ether CAS#68131-40-8	FORMULA C11-15 H23-31 O(CH <sub>2</sub> CH <sub>2</sub> O) xh	

## SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE water	80		METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)

## SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	240	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	1.002
VAPOR PRESSURE (mm Hg.)	over 1	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	over 1	EVAPORATION RATE (_____ = 1)	close to water
SOLUBILITY IN WATER			
APPEARANCE AND ODOR	essentially colorless; mild odor		

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 470°F Cleveland open cup ASTM D93	FLAMMABLE LIMITS	LeI	UeI
EXTINGUISHING MEDIA All-purpose foams, CO <sub>2</sub> or Dry Chemical Media			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS May produce a flaring fire hazard			

### SECTION V - HEALTH HAZARD DATA

**THRESHOLD LIMIT VALUE**  
 Swallowing causes nausea, vomiting; give 2 glasses water, do not induce vomiting.

**EFFECTS OF OVEREXPOSURE**  
 Skin-prolonged or widespread contact: absorption of harmful material: flush with water. Inhalation--no evidence of harm. **EYE CONTACT:** irritation, possible cornea burn.

**EMERGENCY AND FIRST AID PROCEDURES**  
 Eyes: Flush thoroughly with water for at least 15 minutes; seek prompt medical attention. Note to physician: no specific antidote

### SECTION VI - REACTIVITY DATA

<b>STABILITY</b>	UNSTABLE		<b>CONDITIONS TO AVOID</b> none
	STABLE	XX	
<b>INCOMPATABILITY (Materials to avoid)</b> strong bases at high temperatures. Strong acids. Strong oxidants.			
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b> Burning: Can produce carbon monoxide and/or carbon dioxide			
<b>HAZARDOUS POLYMERIZATION</b>	MAY OCCUR		<b>CONDITIONS TO AVOID</b> none
	WILL NOT OCCUR	X	

### SECTION VII - SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**  
 Wear protective equipment. Avoid contact with eyes and skin

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**WASTE DISPOSAL METHOD**  
 Incinerate in furnace where permitted. A low concentrations (less than 10ppm) can be biodegradable.

### SECTION VIII - SPECIAL PROTECTION INFORMATION

<b>RESPIRATORY PROTECTION (Specify type)</b> None expected to be		
<b>VENTILATION</b>	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) is sufficient	OTHER
<b>PROTECTIVE GLOVES</b> PVC	<b>EYE PROTECTION</b> Goggles	
<b>OTHER PROTECTIVE EQUIPMENT</b>		

### SECTION IX - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**  
 KEEP CONTAINER CLOSED

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**OTHER PRECAUTIONS**  
 TOXIC TO FISH, avoid discharge into natural waters