

GE BETZ, INC.
MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: 03-JAN-2001
PRINTED DATE: 14-NOV-2002

1) CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : BIOCLEAN 511

PRODUCT APPLICATION AREA: REVERSE OSMOSIS MEMBRANE CLEANER

COMPANY ADDRESS:

GE Betz, Inc.
4636 Somerton Road, Trevose, Pa. 19053
Information phone number: (215) 355-3300

EMERGENCY TELEPHONE (HEALTH/ACCIDENT): (800)-877-1940 (USA)

2) COMPOSITION / INFORMATION ON INGREDIENTS

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

CAS#	CHEMICAL NAME
5064-31-3	NITRILOTRIACETIC ACID, TRISODIUM SALT (NTA.3NA) Possible human carcinogen (IARC=2B; NTP=anticipated)
139-89-9	N-HYDROXYETHYLENEDIAMINE TRIACETIC ACID TRISODIUM SALT Irritant (eyes)
102-71-6	TRIETHANOLAMINE Irritant; potential liver and kidney toxin
141-43-5	MONOETHANOLAMINE (ETHANOLAMINE) Combustible; corrosive; irritant; may cause liver and kidney toxicity
111-42-2	DIETHANOLAMINE (ETHANOL, 2,2'-IMINODI-) Irritant (eyes); absorbed by skin; potential blood, nervous system, liver and kidney toxin
119345-04-9	BENZENE, 1,1'-OXYBIS-, TETRAPROPYLENE DERIVATIVES, SULFONATED, SODIUM SALTS Severe irritant (eyes)

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3) HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER

Severe irritant to the skin. Severe irritant to the eyes, possibly corrosive. Irritation of the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

DOT hazard: Corrosive to aluminum, RQ
Emergency Response Guide #154
Odor: Slight; Appearance: Colorless To Amber, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:

Primary route of exposure; Severe irritant to the skin.

ACUTE EYE EFFECTS:

Severe irritant to the eyes, possibly corrosive.

ACUTE RESPIRATORY EFFECTS:

Primary route of exposure;Irritation of the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

INGESTION EFFECTS:

May cause gastrointestinal irritation with possible nausea, vomiting, abdominal discomfort and diarrhea.

TARGET ORGANS:

PROLONGED OR REPEATED EXPOSURES MAY CAUSE PRIMARY IRRITANT DERMATITIS AND/OR TOXICITY TO THE LIVER, KIDNEY, NERVOUS SYSTEM, AND BLOOD. MAY INCREASE THE RISK OF CANCER BASED ON LIMITED ANIMAL DATA.

MEDICAL CONDITIONS AGGRAVATED:

Pre-existing skin disorders and chronic respiratory disease.

SYMPTOMS OF EXPOSURE:

Causes irritation of the skin, eyes, and/or respiratory system.

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4) FIRST AID MEASURES

SKIN CONTACT:

Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

EYE CONTACT:

URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

INHALATION:

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

NOTES TO PHYSICIANS:

No special instructions

5) FIRE FIGHTING MEASURES

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition (destructive fires) yields elemental oxides.

FLASH POINT:

> 200F > 93C P-M(CC)

MISCELLANEOUS:

Corrosive to aluminum, RQ
UN3266;Emergency Response Guide #154

6) ACCIDENTAL RELEASE MEASURES

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement, a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

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7) HANDLING AND STORAGE

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Do not freeze. If frozen, thaw and mix completely prior to use.

8) EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL NAME	EXPOSURE LIMITS
NITRILOTRIACETIC ACID, TRISODIUM SALT (NTA.3NA)	
PEL (OSHA): NOT DETERMINED	
TLV (ACGIH): NOT DETERMINED	
N-HYDROXYETHYLENEDIAMINE TRIACETIC ACID TRISODIUM SALT	
PEL (OSHA): NOT DETERMINED	
TLV (ACGIH): NOT DETERMINED	
TRIETHANOLAMINE	
PEL (OSHA): NOT DETERMINED	
TLV (ACGIH): 5 MG/M3	
MONOETHANOLAMINE (ETHANOLAMINE)	
PEL (OSHA): 3 PPM(6PPM-STEL)	
TLV (ACGIH): 3 PPM(6PPM-STEL)	
DIETHANOLAMINE (ETHANOL, 2,2'-IMINODI-)	
PEL (OSHA): 3 PPM	
TLV (ACGIH): 2 MG/M3-(SKIN)	
BENZENE, 1,1'-OXYBIS-, TETRAPROPYLENE DERIVATIVES, SULFONATED, SODIUM SALTS	
PEL (OSHA): NOT DETERMINED	
TLV (ACGIH): NOT DETERMINED	

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8) EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

ENGINEERING CONTROLS:

Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.

If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges and dust/mist prefilters.

SKIN PROTECTION:

neoprene gloves-- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9) PHYSICAL AND CHEMICAL PROPERTIES

Specific Grav. (70F,21C)	1.197	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	23	Vapor Density (air=1)	~ 5.00
Freeze Point (C)	-5		
Viscosity(cps 70F,21C)	99	% Solubility (water)	100.0
Odor		Slight	
Appearance		Colorless To Amber	
Physical State		Liquid	
Flash Point	P-M(CC)	> 200F > 93C	
pH As Is (approx.)		10.9	
Evaporation Rate (Ether=1)		< 1.00	

NA = not applicable ND = not determined

10) STABILITY AND REACTIVITY

STABILITY:

Stable under normal storage conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

Thermal decomposition (destructive fires) yields elemental oxides.

INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"B"

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11) TOXICOLOGICAL INFORMATION

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value
Dermal LD50 RABBIT: >2,000 mg/kg
NOTE - Estimated value

12) ECOLOGICAL INFORMATION

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Renewal Bioassay (pH adjusted)
LC50 = 342; No Effect Level = 250 mg/L
Fathead Minnow 96 Hour Static Renewal Bioassay (pH adjusted)
LC50 = 61.6; No Effect Level = 25 mg/L

BIODEGRADATION

BOD-28 (mg/g): 142
BOD-5 (mg/g): 130
COD (mg/g): 805
TOC (mg/g): 242

13) DISPOSAL CONSIDERATIONS

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14) TRANSPORT INFORMATION

DOT HAZARD: Corrosive to aluminum, RQ
UN / NA NUMBER: UN3266
DOT EMERGENCY RESPONSE GUIDE #: 154

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15) REGULATORY INFORMATION

TSCA:

All components of this product are listed in the TSCA inventory.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

251 gallons due to DIETHANOLAMINE (ETHANOL,2,2'-IMINODI-);

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
111-42-2	DIETHANOLAMINE (ETHANOL, 2, 2' - IMINODI -)	2.0-5.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65) CHEMICALS PRESENT:

This product contains these chemicals known to the state of
California to cause cancer or reproductive toxicity:

CAS#	CHEMICAL NAME
5064-31-3	NITRILOTRIACETIC ACID, TRISODIUM SALT (NTA.3NA)

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

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16) OTHER INFORMATION

NFPA/HMIS

CODE TRANSLATION

Health	3	Serious Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles, Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
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MSDS status:	22-AUG-1995	REVISED FORMAT	** NEW **
	29-APR-1997	3, 5, 14	22-AUG-1995
	07-MAY-1997	3	29-APR-1997
	07-MAY-1998	2	07-MAY-1997
	14-DEC-1998		07-MAY-1998
	29-APR-1999	12	14-DEC-1998
	31-AUG-1999	3, 4	29-APR-1999
	06-JUL-2000	12	31-AUG-1999
	03-JAN-2001	2, 3, 8, 15	06-JUL-2000