



Material Safety Data Sheet

Issue Date: 12-MAR-2007
Supersedes: 15-JUN-2004

UNIVERSAL HARDNESS BUFFER SOLUTION

1 Identification of Product and Company

Identification of substance or preparation
UNIVERSAL HARDNESS BUFFER SOLUTION

Reagent Application Area
Field test reagent

Reagent Code
L1566

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: 215 355-3300

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	Range (w/w%)
141-43-5	MONOETHANOLAMINE (ETHANOLAMINE) Combustible; corrosive; irritant; CNS depressant; may cause liver and kidney toxicity; in vitro mutagen; fetotoxic and developmental toxin in laboratory animals	10-20
102-71-6	TRIETHANOLAMINE Irritant; potential liver and kidney toxin; in vitro mutagen; causes tumors of liver following applications to the skin of experimental animals	10-20

3 Hazards Identification

EMERGENCY OVERVIEW

DANGER

Severe irritant to the skin. Absorbed by skin. Corrosive to the eyes. Vapors, gases, mists and/or aerosols cause irritation to the upper respiratory tract.

DOT hazard is not applicable
Emergency Response Guide is not applicable
Odor: None; Appearance: Colorless, 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. Absorbed by skin.

ACUTE EYE EFFECTS:

Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:

Primary route of exposure; Vapors, gases, mists and/or aerosols cause irritation to the upper respiratory tract.

INGESTION EFFECTS:

May cause severe gastrointestinal irritation with possible nausea, vomiting, headache, dizziness, unconsciousness and injury to kidneys and liver.

TARGET ORGANS:

Prolonged or repeated exposures may cause primary irritant dermatitis and/or toxicity to the liver and kidney.

MEDICAL CONDITIONS AGGRAVATED:

Pre-existing skin, lung and eye conditions.

SYMPTOMS OF EXPOSURE:

Inhalation may cause irritation of mucous membranes and respiratory tract. Skin contact causes severe irritation or burns.

4 First Aid Measures

SKIN CONTACT:

URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

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:

Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate 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:

oxides of carbon and nitrogen, ammonia and volatile amines

FLASH POINT:

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

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.

7 Handling & Storage

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Store in cool ventilated location. Store away from oxidizers.

8 Exposure Controls / Personal Protection

EXPOSURE LIMITS**CHEMICAL NAME****MONOETHANOLAMINE (ETHANOLAMINE)**

PEL (OSHA): 3 PPM(6PPM-STEL)

TLV (ACGIH): 3PPM-SKIN(6PPM-STEL-SKIN)

TRIETHANOLAMINE

PEL (OSHA): NOT DETERMINED

TLV (ACGIH): 5 MG/M3

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.

SKIN PROTECTION:

gauntlet-type rubber gloves, chemical resistant apron-- Wash
off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles, face shield

9 Physical & Chemical Properties

Specific Grav. (70F, 21C)	1.050	Vapor Pressure (mmHG)	ND
Freeze Point (F)	ND	Vapor Density (air=1)	ND
Freeze Point (C)	ND		
Viscosity(cps 70F, 21C)	ND	% Solubility (water)	ND

Odor	None
Appearance	Colorless
Physical State	Liquid
Flash Point	P-M(CC) > 200F > 93C
pH As Is (approx.)	10.3
Evaporation Rate	ND
Percent VOC:	ND

NA = not applicable ND = not determined

10 Stability & Reactivity

STABILITY:

Stable under normal storage conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, ammonia and volatile amines

INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"B"

11 Toxicological Information

Oral LD50 RAT:	>5,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>5,000 mg/kg
NOTE - Estimated value	
Inhalation LC50 RAT:	>2,000 ppm/hr
NOTE - Estimated value	

12 Ecological Information

AQUATIC TOXICOLOGY

No Data Available.

BIODEGRADATION

No Data Available.

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: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory Information

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

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

No regulated constituent present at OSHA thresholds

SARA SECTION 312 HAZARD CLASS:

Immediate (acute); Delayed (Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

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

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

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	D	Goggles, Face Shield, Gloves, Apron

(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 **

07-MAY-1998 2
15-JUN-2004 16
12-MAR-2007 4

22-AUG-1995
07-MAY-1998
15-JUN-2004