

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PB - 35 Phosphate Buffer Concentrate

MSDS NUMBER: 230101

GENERAL USE: Buffer solution

PRODUCT DESCRIPTION: Clear to light amber viscous liquid, characteristic detergent odor

Thermo
ELECTRON CORPORATION

MANUFACTURER'S NAME (Distributor in the Americas)
Thermo Electron Corporation

DATE PREPARED: December 30, 2003

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SUPERSEDES: March 1, 2000

ADDRESS (NUMBER, STREET, P.O. BOX)
171 Industry Drive

TELEPHONE NUMBER FOR INFORMATION
(412) 788-1133

(CITY, STATE AND ZIP CODE)
Pittsburgh, PA 15275

COUNTRY
USA

EMERGENCY TELEPHONE NUMBER
CHEM • TEL (800) 255-3924 Outside USA (813) 248-0585

DISTRIBUTOR'S NAME (Outside the Americas)
Thermo Electron Corporation

ADDRESS (NUMBER, STREET, P.O. BOX)
93/96 Chadwick Road, Astmoor

TELEPHONE NUMBER FOR INFORMATION
+44 (0) 1928 562547

(CITY, STATE AND ZIP CODE)
Runcorn, Cheshire WA7 1PR

COUNTRY
United Kingdom

EMERGENCY TELEPHONE NUMBER
CHEM • TEL (813) 248-0585

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	% (by weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES Full Text Section 16
Sodium phosphate, dibasic (DSP) (a)	1 - 5	7558-79-4	231-448-7	NC	Not classified
Sodium chloride	10 - 30	7647-14-5	231-598-3	NC	Not classified
Polyethylene glycol	1 - 5	25322-68-3	Not found	NC	Not classified
Thimerosal (b,c)	0.02	54-64-8	200-210-4	T+, N	R-26/27/28, 33, 50/53

(a) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture > 24000 lbs) or greater amounts, according to 40 CFR 302.

(b) Indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

(c) California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986, chemicals known to the state to cause cancer or reproductive toxicity. A person in the course of doing business must warn others who may consume, come into contact with, or otherwise be exposed to this chemical.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Mild liquid, ingestion may cause gastric distress. Hazard symbols - not classified. Risk phrases - none.

POTENTIAL HEALTH EFFECTS

INHALATION: None expected, however, certain individuals may experience minor nausea or headaches.

SKIN: None expected, however, prolonged contact may cause irritation.

EYES: Contact with eyes may cause irritation.

INGESTION: May cause gastric distress, vomiting and diarrhea.

CARCINOGENICITY NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

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SECTION 4 - FIRST AID MEASURES

INHALATION: Remove affected person to fresh air; if symptoms persist seek medical attention.

SKIN: Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.

EYES: Remove contact lenses. Flush eyes with water for 15 minutes; if irritation persists, seek medical attention.

INGESTION: Give two glasses of water for dilution; DO NOT induce vomiting; never give anything by mouth to an unconscious person; seek medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS: Product is not considered flammable or combustible. Products of combustion include compounds of carbon, hydrogen, and oxygen, including carbon monoxide.

EXTINGUISHING MEDIA

Carbon dioxide, water, water fog, dry chemical, chemical foam

FIRE FIGHTING PROCEDURES

Keep containers cool with water spray to prevent container rupture due to steam buildup; floor will become slippery if material is released.

UNUSUAL FIRE AND EXPLOSION HAZARDS

None

HAZARDOUS COMBUSTION PRODUCTS

Smoke, fumes, oxides of carbon

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Small spills - wash to sanitary sewer with plenty of water. Large spills - soak up with approved absorbent, shovel product into approved container for disposal. Wash area with plenty of water.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH			
	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
Sodium phosphate, dibasic (DSP) (a)		Not established				Not established		
Sodium chloride		Not established				Not established		
Polyethylene glycol		Not established				Not established		
Thimerosal (b,c)						0.1		0.05

PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): None required

PROTECTIVE GLOVES: None required

EYE PROTECTION: Recommended for general protection Refer to 29 CFR 1910.133 or European Standard EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety eyebath nearby

WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Clear to light amber viscous liquid, detergent odor	VAPOR PRESSURE 17 mm Hg @ 20° C
pH Not specified (alkaline)	SPECIFIC GRAVITY (WATER = 1) 1.120
BOILING POINT / BOILING RANGE > 220° F (> 104° C)	SOLUBILITY IN WATER Complete
FLASH POINT Non-flammable	VISCOSITY Not specified
FLAMMABLE LIMITS LEL: Not applicable UEL: Not applicable	VAPOR DENSITY (AIR = 1) > 1
AUTOIGNITION TEMPERATURE Not established	EVAPORATION RATE (WATER = 1) < 1

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures, keep from freezing
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids	
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes, and smoke may be produced.	
HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: XXX	CONDITIONS TO AVOID: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Sodium phosphate, dibasic (DSP) (a)	7558-79-4 231-448-7	17,000 mg / kg Oral - rat	Not established
Sodium chloride	7647-14-5 231-598-3	3000 mg / kg Oral - rat	> 42,000 mg / m3 Inhalation - rat
Polyethylene glycol	25322-68-3 Not found	50,000 mg / kg Oral - rat	Not established
Thimerosal (b,c)	54-64-8 200-210-4	98 mg / kg Oral - rat	Not established

SECTION 12 - ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: According to the European Waste Catalogue, waste codes are application specific and should be assigned by the user based on the application for which the product is used. Dispose of in accordance with Local, State, and Federal Regulations. Product is classified as non-hazardous, however, non-hazardous materials may become hazardous waste upon contact with other products. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not Regulated	IATA HAZARD CLASS / Pack Group: Not regulated
DOT HAZARD CLASS / Pack Group: Not regulated	IMDG HAZARD CLASS: Not regulated
REFERENCE: Not Applicable	RID/ADR Dangerous Goods Code: Not regulated
UN / NA IDENTIFICATION NUMBER: None	UN TDG Class / Pack Group: Not regulated
LABEL: None Required	
HAZARD SYMBOLS: None	

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

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SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act)

All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act)

311/312 Hazard Categories
None

313 Reportable Ingredients:

(b) Indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (USA - Comprehensive Response Compensation and Liability Act)

(a) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture > 24000 lbs) or greater amounts, according to 40 CFR 302.

CPR (Canadian Controlled Products Regulations)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

IDL (Canadian Ingredient Disclosure List)

Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)

Components of this product identified by CAS number are listed on the DSL or NDSL and may or may not be listed in Section 2 of this document. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)

Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

WGK Water Quality Index: nwg

RISK PHRASES:
None

SYMBOL(S) REQUIRED FOR LABEL

None

SAFETY PHRASES:
S25 Avoid contact with eyes.

SECTION 16 - OTHER INFORMATION

Notes & full R-Phrase text

R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed
R33 Danger of cumulative effects.
R50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment

HMIS HAZARD RATINGS

HEALTH	1	0 = INSIGNIFICANT	3 = HIGH
FLAMMABILITY	0	1 = SLIGHT	4 = EXTREME
REACTIVITY	0	2 = MODERATE	
PERSONAL PROTECTIVE EQUIPMENT	A	Safety Glasses	

REVISION SUMMARY:

This MSDS has been revised in the following sections: No revisions available

MSDS Prepared by: Chem-Tel, Inc.
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Tampa, Florida USA 33602 (800) 255-3924 Outside USA (813) 248-0573

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.