

# MATERIAL SAFETY DATA SHEET

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Shandon Cytoblock® Reagent #2

PART NUMBER: 231814

GENERAL USE: Chemical reagent

PRODUCT DESCRIPTION: Light blue liquid, mild characteristic odor

**Thermo**  
ELECTRON CORPORATION

MANUFACTURER'S NAME (Distributor in the Americas)

Thermo Electron Corporation

DATE PREPARED: September 17, 2003

SUPERSEDES: May 1, 2001

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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

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EMERGENCY TELEPHONE NUMBER

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## SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	% (by weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES Full Text Section 16
Formaldehyde (a,b,c,d,e,f,g,h)	0.1 - 1.0	50-00-0	200-001-8	T	23/24/25, 34, 40, 43

(a,c) See Section 15

(b) Indicates that the Resource Conservation and Recovery Act (RCRA) has determined the waste for this chemical is listed as hazardous and must be handled according to regulations in 40 CFR 260-281.

(d) Indicates an Extremely Hazardous Substance, if your facility has a designated amount of this substance, Threshold Planning Quantity (TPQ) in inventory, the regulations of 40 CFR 355 and 370 apply, including submission of Tier I / Tier II forms every March 1.

(e) Indicates substance appears on National Toxicology Program (NTP) list of carcinogens, International Agency for Research on Cancer (IARC) list of carcinogens or is regulated by the Occupational Safety and Health Administration (OSHA) as a possible carcinogen.

(f) Indicates listing in Table Z - 2, 29 CFR 1910.1000, value shown is 8-hour Time Weighted Average. See table for acceptable ceiling concentration limits and acceptable maximum peak above the acceptable ceiling concentration.

(g) OSHA proposed a regulation (29 CFR 1910.119) to monitor and control safety at certain types of industrial facilities. Compliance is triggered by specified quantities of specific chemicals. Minimum threshold quantity for this Highly Hazardous Chemical is 1000 lbs.

(h) 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, prolonged contact may cause eye irritation; prolonged skin contact may cause sensitization. Ingestion may cause gastric distress. Hazard symbols for this product - Xi. Risk Phrase - R 43

### POTENTIAL HEALTH EFFECTS

INHALATION: Breathing concentrated vapors may cause irritation of respiratory tract.

SKIN: Prolonged contact may cause irritation.

EYES: Contact with eyes will cause irritation.

INGESTION: May cause gastric distress, vomiting and diarrhea.

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

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**SECTION 4 - FIRST AID MEASURES**

**INHALATION:** Remove affected person to fresh air; wash mouth and nasal passages with water repeatedly; if breathing difficulties persist seek medical attention.

**SKIN:** Wash contacted area with soap and water; DO NOT attempt to neutralize with chemical agents; if irritation persists, seek medical attention.

**EYES:** Remove contact lenses. Immediately flush eyes for 15 minutes in clear running water while holding eyelids open; seek medical attention immediately.

**INGESTION:** Drink large quantities of water or milk; DO NOT induce vomiting; never give anything by mouth to an unconscious person; seek medical attention immediately.

**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.

**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 - confine spill, soak up with approved absorbent, shovel product into approved container for disposal. Wash area with plenty of water. Do not discharge into lakes, ponds, streams or public waters.

**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
Formaldehyde (a,b,c,d,e,f,g,h)	0.016	--	--	--	--	0.3	--	--

**PERSONAL PROTECTION:**

**RESPIRATORY PROTECTION (SPECIFY TYPE):** None required while threshold limits (Section 2) are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

**PROTECTIVE GLOVES:** Neoprene or rubber gloves with cuffs.

**EYE PROTECTION:** Protective eyeglasses or chemical safety goggles. Refer to 29 CFR 1910.133 or European Standard EN166.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Coveralls, apron, or other equipment should be worn to minimize skin contact.

**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 Light blue liquid, characteristic odor	VAPOR PRESSURE 17 mm Hg @ 20° C
pH 6.5 - 7.5	SPECIFIC GRAVITY (WATER = 1) 1.000
BOILING POINT / BOILING RANGE 212° F (100° C)	SOLUBILITY IN WATER Complete
FLASH POINT Non-flammable	VISCOSITY Like water
FLAMMABLE LIMITS LEL: Not applicable UEL: Not applicable	VAPOR DENSITY (AIR = 1) > 1
AUTOIGNITION TEMPERATURE Not applicable	EVAPORATION RATE (WATER = 1) < 1

**SECTION 10 - STABILITY AND REACTIVITY**

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures
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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
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**SECTION 11 - TOXICOLOGICAL INFORMATION**

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Formaldehyde (a,b,c,d,e,f,g,h)	50-00-0 200-001-8	100 mg / kg Oral - rat	203 mg / m3 Inhalation - rat

**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; this product is toxic to fish, do not discharge into lakes, ponds, streams or public waters. 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:

(a) A "Yes" in the SARA TITLE III column in Section 2 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)**

(c) 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:**

R43 May cause sensitization by skin contact.

**SYMBOL(S) REQUIRED FOR LABEL**

Irritant



**SAFETY PHRASES:**

S25 Avoid contact with eyes.  
S37 Wear suitable gloves.

**SECTION 16 - OTHER INFORMATION**

Notes & full R-Phrase text

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed  
R34 Causes burns.  
R40 Limited evidence of a carcinogenic effect  
R43 May cause sensitization by skin contact.

**HMIS HAZARD RATINGS**

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

**REVISION SUMMARY:**

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

MSDS Prepared by: Chem-Tel, Inc.  
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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.