

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Shandon Gill 1, Shandon Gill 2, Shandon Gill 3

PART NUMBER: 230029

GENERAL USE: Nuclear stain for histological and cytological slide specimens

PRODUCT DESCRIPTION: Red to purple liquid, vinegar odor.

Thermo
ELECTRON CORPORATION

MANUFACTURER'S NAME (Distributor in the Americas)

Thermo Electron Corporation

DATE PREPARED: January 21, 2005

SUPERSEDES: June 26, 2003

Page 1 of 4

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
Ethylene glycol (a,b,c,d)	15 - 40	107-21-1	203-473-3	Xn	R-22
Aluminum sulfate (c)	1 - 7	10043-01-3	233-135-0	Xi	R-37/38, 41
Acetic acid (c)	1 - 5	64-19-7	200-580-7	C	R-10, 35

(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) A "C" in the OSHA PEL or ACGIH TWA column indicates ceiling limits, the concentration that should not be exceeded during any part of the working exposure.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! Harmful or fatal if swallowed, harmful if inhaled or absorbed through the skin. May cause allergic skin reaction. May cause irritation to skin, eyes, and respiratory tract. Affects central nervous system Hazard symbols for this product - Xn. Risk Phrases - R22

POTENTIAL HEALTH EFFECTS

INHALATION: High concentrations in the form of vapors or mists are irritating to the respiratory tract; may cause headache, dizziness, nausea and vomiting.

SKIN: Brief contact may cause slight irritation; prolonged contact may cause moderate irritation or dermatitis.

EYES: High vapor concentration or contact may cause irritation and discomfort.

INGESTION: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, or possible convulsions or coma; large doses may be fatal.

CARCINOGENICITY

NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

This product contains trace amounts of the following substances known to the state of California to cause cancer: 1,4 Dioxane, Ethylene Oxide, and Acetaldehyde.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Shandon Gill 1, Shandon Gill 2, Shandon Gill 3
January 21, 2005

Page 2 of 4

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 clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.

INGESTION: Give two glasses of water for dilution; Induce vomiting by sticking fingers down throat; never give anything by mouth to an unconscious person; seek medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS: Product will support combustion. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

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

FIRE FIGHTING PROCEDURES
Self - contained respiratory equipment; cool containers to prevent pressure buildup and possible explosion when exposed to extreme heat.
Caution - material will support combustion!

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers can explode due to buildup of pressure when exposed to extreme heat.

HAZARDOUS COMBUSTION PRODUCTS
Smoke, fumes, oxides of carbon

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Material is acidic and will irritate the eyes if product is allowed to directly contact the eyes. Wash small spills to sanitary sewer. Large spills - confine spill, soak up with approved absorbent, shovel product into approved container for disposal. This is a regulated product, for spills in excess of allowable limits (RQ) notify the National Response Center (800) 424 - 8802; refer to SARA Title III, Section 313 40 CFR 372, and CERCLA 40 CFR 302 for detailed instructions concerning reporting requirements.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed when not in use; protect containers from abuse; material should be stored at 74° F ± 13° F (23° C ± 7° C)

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
Ethylene glycol (a,b,c,d)	--	--	--	--	39.4 C	127 C	--	--
Aluminum sulfate (c)		2				2		
Acetic acid (c)	10	25	15	37	10	25	15	37

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: Safety eyebath nearby

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

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Shandon Gill 1, Shandon Gill 2, Shandon Gill 3
January 21, 2005

Page 3 of 4

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Red to purple liquid, vinegar odor	VAPOR PRESSURE 15 mm Hg @ 20° C
pH 2.25 - 2.5	SPECIFIC GRAVITY (WATER = 1) Approximately 1.00
BOILING POINT / BOILING RANGE 255 - 273° F (124 - 134° C)	SOLUBILITY IN WATER Miscible
FLASH POINT > 200° F (> 93.3° C)	VISCOSITY Not specified
FLAMMABLE LIMITS LEL: Not applicable UEL: Not applicable	VAPOR DENSITY (AIR = 1) > 1
AUTOIGNITION TEMPERATURE Not determined	EVAPORATION RATE (WATER = 1) < 0.5

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids, strong alkalies	
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)
Ethylene glycol (a,b,c,d)	107-21-1 203-473-3	4700 mg / kg Oral - rat	10876 mg / kg Inhalation - rat
Aluminum sulfate (c)	10043-01-3 233-135-0	6207 mg / kg Oral - rat	Not established
Acetic acid (c)	64-19-7 200-580-7	3310 mg / kg Oral - rat	5620 ppm / 1H Inhalation - rat
(a,c) See Section 15			

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. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations for acidic materials. 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.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Shandon Gill 1, Shandon Gill 2, Shandon Gill 3
January 21, 2005

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
Immediate health

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 = 15,000 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: 1

RISK PHRASES:

R22 Harmful if swallowed

SYMBOL(S) REQUIRED FOR LABEL

Harmful



SAFETY PHRASES:

None

SECTION 16 - OTHER INFORMATION

Notes & full R-Phrase text

R10 Flammable.
R22 Harmful if swallowed
R35 Causes severe burns.
R37/38 Irritating to respiratory system and skin.
R41 Risk of serious damage to the eyes.

HMIS HAZARD RATINGS

HEALTH	3	0 = INSIGNIFICANT	3 = HIGH
FLAMMABILITY	1	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: Section 2, 16 - Classification corrections

MSDS Prepared by: Chem-Tel, Inc.
1305 N. Florida Ave.
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.