

## MATERIAL SAFETY DATA

MSDS No: 00144  
Date: 03/12/1999  
Supersedes: 07/01/1997

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **C800 HARDENER**

SYNONYMS: Mixture of inorganic salt and shell flour

CHEMICAL FAMILY: Mixture

MOLECULAR FORMULA: Mixture

MOLECULAR WGT: Mixture

VACUUM PRESSING SYSTEMS INC., 553 RIVER ROAD, BRUNSWICK, MAINE 04011 USA  
For Product Information call 1-800-382-4109. Outside the USA and Canada call 1-207-725-0935  
EMERGENCY PHONE: For emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### OSHA REGULATED COMPONENTS

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
Titanium dioxide	013463-67-7	10.0	15 mg/m <sup>3</sup> total 10 mg/m <sup>3</sup>	OSHA ACGIH
Ammonium chloride	012125-02-9	18.0	10 mg/M <sup>3</sup> 20 mg/M <sup>3</sup> STEL	ACGIH ACGIH

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Brown powder; odorless

#### STATEMENTS OF HAZARD:

CAUTION! MAY CAUSE EYE AND SKIN IRRITATION  
MAY FORM EXPLOSIVE DUST-AIR MIXTURES

#### POTENTIAL HEALTH EFFECTS

##### EFFECTS OF OVEREXPOSURE:

The estimated acute oral (rat) LD<sub>50</sub>, acute dermal (rabbit) LD<sub>50</sub>, and 4-hour inhalation (rat) LC<sub>50</sub> values for this material are greater than 3,600 mg/kg, greater than 2,000 mg/kg and greater than 20.0 mg/l respectively.

Direct contact with this material may cause mild eye and skin irritation.

Refer to Section 11 for toxicology information on the OSHA regulated components of this product.

### 4. FIRST AID MEASURES

Material is not expected to be harmful by ingestion. No specific first aid measures are required.

In case of skin contact, wash affected areas of skin with soap and water.

In case of eye contact, immediately irrigate with plenty of water for 15 minutes.

If vapor or dust of this material is inhaled, remove from exposure. Administer oxygen if there is difficulty in breathing. Obtain medical attention immediately if necessary.

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## 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

FLASH POINT: Not applicable

FLAMMABLE LIMITS

(% BY VOL): Not applicable

AUTOIGNITION TEMP: Not available

DECOMPOSITION TEMP: Not available

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### EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTIONS

This material will not burn readily. Use an extinguishing media appropriate for the surrounding fire. Wear self-contained, positive pressure breathing apparatus.

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## 6. ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator. Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. Wear same protective clothing/equipment as in Section 8 (Exposure Controls/Personal Protection). Sweep up spills and place in a waste disposal container. Flush area with water.

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## 7. HANDLING AND STORAGE

Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Contains finely divided material.

Dust suspended in air may ignite with static discharge, sparks, or flame. Equipment, including venting systems, should be grounded. Provide adequate ventilation in areas of use to remove dust.

Maintain good housekeeping to control dust accumulations.

DUST EXPLOSION HAZARD CLASS - 1 Handling of material should be in accordance with NFPA-68. If handled with flammable or combustible materials the explosion hazard may increase.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

Engineering controls are not usually necessary if good hygiene practices are followed. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Avoid unnecessary skin contact. Impervious gloves and apron are recommended to prevent skin contact. For operations where eye or face contact can occur, wear eye protection such as chemical splash-proof goggles or face shield. Where exposures are below the Permissible Exposure Limit (PEL), no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH for the material and level of exposure. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION" (NIOSH).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Brown powder; odorless

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

SPECIFIC GRAVITY: Not available

VAPOR DENSITY: Not applicable

% VOLATILE (BY WT): Negligible

pH: Not applicable

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SATURATION IN AIR (% BY VOL): Not applicable

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EVAPORATION RATE: Not applicable

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SOLUBILITY IN WATER: Appreciable

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## 10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None known

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POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None known

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INCOMPATIBLE MATERIALS: Strong oxidizing agents, acids and alkalies.

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HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, hydrogen chloride, ammonia and/or oxides of nitrogen.

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## 11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION. Toxicological information on the OSHA regulated components of this product is as follows:

Acute overexposure to titanium dioxide dust is not likely to cause adverse effects. Chronic overexposure to titanium dioxide may cause some lung fibrosis. Inhalation of titanium dioxide dust at 50 times the nuisance dust level caused lung fibrosis and a slight increase in lung tumor incidence in laboratory rats. When titanium dioxide was fed to rats and mice over lifetime in a carcinogen bioassay, it was not carcinogenic.

The acute oral (rat) and dermal (rabbit) LD50 values for ammonium chloride are 1650 mg/kg and >2000 mg/kg, respectively. Direct contact with ammonium chloride may cause mild eye and skin irritation. Inhalation overexposure to ammonium chloride vapors can cause irritation to the eyes, nose, and throat.

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## 12. ECOLOGICAL INFORMATION

No aquatic LC50, BOD, or COD data available.

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OCTANOL/H<sub>2</sub>O PARTITION COEF.: Not available

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## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Cytec product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 5 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Cytec recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Cytec has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

**14. TRANSPORT INFORMATION**

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

	<b>D.O.T. SHIPPING INFORMATION</b> ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	<b>IMO SHIPPING INFORMATION</b> NOT APPLICABLE/NOT REGULATED
SHIPPING NAME:		
HAZARD CLASS/ PACKING GROUP:	9 III	Not Applicable
UN NUMBER:	UN3077	Not Applicable
IMDG PAGE:	Not Applicable	Not Applicable
D.O.T. HAZARDOUS SUBSTANCES:	(PRODUCT REPORTABLE QUANTITY) AMMONIUM CHLORIDE (27,778 lbs)	Not Applicable
TRANSPORT LABEL REQUIRED:	Miscellaneous	None Required
	<b>ICAO/IATA</b> NOT APPLICABLE/NOT REGULATED	<b>TRANSPORT CANADA</b> NOT APPLICABLE/NOT REGULATED
SHIPPING NAME:		
HAZARD CLASS:	Not Applicable	Not Applicable
SUBSIDIARY CLASS:	Not Applicable	Not Applicable
UN / ID NUMBER:	Not Applicable	Not Applicable
PACKING GROUP:	Not Applicable	Not Applicable
TRANSPORT LABEL REQUIRED:	None Required	None Required
PACKING INSTR:	PASSENGER Not Applicable CARGO Not Applicable	Not Applicable
MAX NET QTY:	PASSENGER Not Applicable CARGO Not Applicable	Not Applicable

**ADDITIONAL TRANSPORT INFORMATION**

TECHNICAL NAME (N.O.S.): (Contains ammonium chloride)

**15. REGULATORY INFORMATION****INVENTORY INFORMATION**

US TSCA: All components of this product are included on the TSCA Inventory in compliance with the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.

CANADA DSL: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.

EEC EINECS: All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

### OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

COMPONENT	CAS. NO.	%	TPQ(lbs)	RQ(lbs)	S313	TSCA 12B
Ammonium chloride	012125-02-9	18.0	NONE	5000	NO	NO

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA
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Not Applicable under SARA TITLE III
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## 16. OTHER INFORMATION

### NFPA HAZARD RATING (National Fire Protection Association)

Fire 3	FIRE: Liquids and solids that can be ignited under almost all ambient temperature conditions.
Health 1 0 Reactivity —	HEALTH: Materials which on exposure would cause irritation but only minor residual injury even if no treatment is given.
Special	REACTIVITY: Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

### REASON FOR ISSUE:

Revised Sections 4,14,15 & 16

Randy Deskin, Ph.D., DABT

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