SAFETY DATA SHEETS

This SDS packet was issued with item:

075169412

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

075169404

Material Safety Data Sheet

MSDS No. D008

Date of Review: August 3, 2011
Supersedes MSDS dated: February 8, 2007

SECTION 1 - PRODUCT IDENTIFICATION

Product Name: VacuKleen E^2

Product Code: 50036100, 50036101, 50036102

Synonyms: NA

Manufacturer: Heraeus Kulzer, LLC
300 Heraeus Way
South Bend, IN 46614-2517
Phone: 800-431-1785
FAX: 800-522-1545
Hours: 8:00 A.M. - 4:30 P.M.
After Hours: Chemtrec @ 1-800-424-9300

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

MATERIALS	CAS #	HAZARD	% WT.	OSHA PEL	ACGIH TLV
Ethylenediaminetetra-acetic Acid	60-00-4		3 - 10	Not Est.	Not Est.
Sodium Metasilicate, pentahydrate	6834-92-0	Irritant	3 - 10	Not Est.	Not Est.
Protease	9014-01-1	Irritant	15 - 25	Not Est.	Not Est. 0.06 mg/m3 substilisins (as pure crystalline enzyme)

SECTION 3 - HAZARDS IDENTIFICATION

***** POTENTIAL HEALTH EFFECTS *****

Target Organs: Eyes, Skin, Respiratory System, Ingestion
Signs and Symptoms of Short-Term (Acute) Exposure:
Eye: Irritant - Avoid contact with eyes.
Skin: Irritant - Avoid contact with skin.
Inhalation: Irritant - Avoid breathing dust or aerosol.
Ingestion: Harmful if swallowed.
Effects of Long-Term (Chronic) Exposure: None Known
Medical Conditions Aggravated by Exposure: None Known
Hygienic Practices: None Known
Carcinogenicity: IARC, NTP, and OSHA do not list VacuKleen E^2 as a carcinogen.

SECTION 4 - FIRST AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, get medical attention.
Eye Contact: Remove contact lenses. Immediately flush with water. Get immediate medical attention.
Skin Contact: Flush with water. If irritation persists, get medical attention.
Ingestion: Drink large amounts of water. Do not induce vomiting.

SECTION 5 - FIRE-FIGHTING MEASURES

Fire Hazards/Conditions of Flammability: None Known
Flash Point (Method): Not Applicable
Lower Flammable Limit (% by volume): Not Applicable
Upper Flammable Limit (% by volume): Not Applicable
Suitable Extinguishing Media: Water, Carbon Dioxide, Dry chemical
Special Fire-Fighting Procedures/Equipment: None Known

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Not Applicable
Environmental Precautions: Not Applicable
Spill/Leak Procedures: Sweep or vacuum spilled material into a waste container for disposal. Avoid creating excessive dust. Spill area should be flushed with water.

SECTION 7 - HANDLING AND STORAGE

Handling and Storing Precautions: Keep in a cool dry place. Keep out of reach of children.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation and Engineering Controls: None Known
Respiratory Protection: Use NIOSH-OSHA approved device if adequate ventilation can't be provided.
Protective Gloves: Wear rubber or vinyl gloves to prevent prolonged or repeated skin contact.
Eye Protection: Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.
Other Protective Equipment: None Known
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Form, Color and Odor: Light yellow powder
Odor Threshold: Mild lemon fragrance
pH: Not Applicable
Boiling Point: Not Applicable
Melting/Freezing Point: Not Applicable
Vapor Pressure: Not Applicable
Solubility in Water: Not Applicable
Coefficient of Oil/Water Distribution: Not Applicable
Specific Gravity or Relative Density (water =1): Not Applicable
Vapor Density (air =1): Not Applicable
Volatile Organic Compounds (VOC's): Not Applicable
Evaporation Rate: Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

Stability and Reactivity: Stable
Conditions to Avoid: None Known
Materials to Avoid: None Known
Hazardous Decomposition Products: None Known
Hazardous Polymerization: Will Not Occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Exposure: No Data Available
Toxicological Data: No Data Available
Teratogenicity, Mutagenicity, Other Reproductive Effects: No Data Available
Sensitization to Material: No Data Available

SECTION 12 - ECOLOGICAL INFORMATION

General Notes: None Known

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: Follow applicable Federal, State and Local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

Transportation of Dangerous Goods (TDG) Information: Not Applicable
Shipping Description:
49 CFR Information: Not Applicable
Shipping Description:
International Dangerous Goods Information: Not Applicable
IMO:
ICAO:
Other Information: Not Applicable

SECTION 15 - REGULATORY INFORMATION

WHMIS Information: Not Applicable
WHMIS Classification: Not Applicable
CEPA Information: Not Applicable
TSCA Information: Components of this product is listed on the TSCA inventory.
SARA Title III: Not Applicable

SECTION 16 - OTHER INFORMATION

Prepared By: Regulatory Department

Additional Notes or References:

ACGIH: American Conference of Governmental Industrial Hygienists
IARC: International Agency for Research on Cancer
NIOSH: National Institute for Occupational Safety and Health
WHMIS: Workplace Hazardous Materials Information System

Revision: Noted

Heraeus Kulzer
Mitsui Chemicals Group

SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name:	**VibraKleen E2**
Product Code:	50037100, 50037100CN, 50037101, 40000259
SDS Manufacturer Number:	D007

Other means of identification:

Synonyms:	Not applicable

Recommended use of the chemical and restrictions on use:

Product Use/Restriction:	Ultrasonic cleaner for dental instruments.

Chemical manufacturer address and telephone number:

Manufacturer Name:	Heraeus Kulzer, LLC (Mitsui Chemicals Group)
Address:	300 Heraeus Way South Bend, Indiana 46614-2517 USA
General Phone Number:	800-431-1785

Emergency phone number:

Emergency Phone Number:	Chemtrec @ 1-800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:

Signal Word:	DANGER.
GHS Class:	Serious Eye Damage. category 1. Skin corrosion. category 1.
Hazard Statements:	H318 - Causes serious eye damage. H314 - Causes severe skin burns and eye damage.
Precautionary Statements:	P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do not induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician. P321 - Specific treatment (see ... on this label). P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Corrosive. Will cause eye burns and permanent tissue damage.
Skin:	Severely irritating; may cause permanent skin damage.
Inhalation:	May cause severe respiratory system irritation.
Ingestion:	Harmful if swallowed. Corrosive to the gastrointestinal tract.
Chronic Health Effects:	Prolonged skin contact causes burns. Repeated or prolonged inhalation may cause toxic effects.
Signs/Symptoms:	Depending on solution concentration, material may be corrosive to skin, mucous membranes and eyes. Vapors may cause respiratory irritation.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Carbowax Polyethylene Glycol 8000	25322-68-3	1 - 5 by weight	
Sodium Benzoate NF/FCC Powder	532-32-1	1 - 5 by weight	
Citric Acid USP Granular Anhydrous	77-92-9	10 - 15 by weight	
Sorbitol-Sorbogem 834	50-70-4	10 - 15 by weight	
Sodium Bicarbonate 5 Coarse	144-55-8	15 - 20 by weight	
Soda Ash Dense Grade 260	497-19-8	15 - 20 by weight	
Deterzyme APUG 380	none	25 - 30 by weight	

Notes : The remaining components of this product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure.

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health: 3
NFPA Flammability: 1
NFPA Reactivity: 2

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in Section 8.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Methods for containment: Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.

Methods for cleanup: Clean up spills immediately observing precautions in the protective equipment section. Provide ventilation.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling:	Corrosive. Use proper personal protective equipment as listed in section 8. Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Wash hands thoroughly after handling.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

Conditions for safe storage, including any incompatibilities:

Storage:	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use. Keep only in the original, corrosive resistant container and store locked up.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Guideline ACGIH:	Exposure limits are not established
Guideline OSHA:	Exposure limits are not established

Appropriate engineering controls:

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Individual protection measures:

Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PPE Pictograms:	

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	Tablet.
Color:	White and brown speckled
Odor:	Mint aroma
Odor Threshold:	Not determined.
Boiling Point:	Not determined.
Melting Point:	Not determined.
Specific Gravity:	Not determined.
Solubility:	Readily soluble in water
Vapor Density:	Not determined.
Vapor Pressure:	Not determined.
Percent Volatile:	Not applicable.
Evaporation Rate:	Not determined.
pH:	Not determined.
Viscosity:	Not determined.
Coefficient of Water/Oil Distribution:	Not determined.
Flammability:	Not determined.
Flash Point:	None.
Lower Flammable/Explosive Limit:	Not applicable.
Upper Flammable/Explosive Limit:	Not applicable.
Auto Ignition Temperature:	Not determined.
Oxidizing Properties:	Not determined.
VOC Content:	Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Will not occur.

Conditions To Avoid:

Conditions to Avoid: Avoid contact with incompatible materials.

Incompatible Materials:

Incompatible Materials: Extremely high temperatures

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Carbowax Polyethylene Glycol 8000 :

Eye: Administration into the eye - Rabbit Standard Draize test: 500 mg/24H [Mild]
Administration into the eye - Rabbit Standard Draize test: 100 uL [Mild]
Administration into the eye - Rabbit Standard Draize test: 500 mg [Mild] (RTECS)

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >20 mL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >20 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 28 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 31640 mg/kg [Kidney/Ureter/Bladder - Other changes]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 27500 mg/kg [Kidney/Ureter/Bladder - Other changes]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 22 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 30200 mg/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 600 mg/kg [Details of toxic effects not reported other than lethal dose value](RTECS)

Sodium Benzoate NF/FCC Powder :

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 4070 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Citric Acid USP Granular Anhydrous :

Eye: Administration into the eye - Rabbit Standard Draize test: 750 ug/24H [Severe] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 3 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 11700 mg/kg [Behavioral - Ataxia Cardiac - Change in rate Lungs, Thorax, or Respiration - Respiratory depression] (RTECS)

Sorbitol-Sorbogem 834 :

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 15900 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Sodium Bicarbonate 5 Coarse :

Eye: Administration into the eye - Rabbit Standard Draize test: 100 mg/30S [Mild] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 4220 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Soda Ash Dense Grade 260 :

Eye: Administration into the eye - Rabbit Standard Draize test: 100 mg/24H [Moderate]
Administration into the eye - Rabbit Rinsed with water: 100 mg/30S [Mild]
Administration into the eye - Rabbit Standard Draize test: 50 mg [Severe] (RTECS)

Inhalation: Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 2300 mg/m3/2H [Lungs, Thorax, or Respiration - Dyspnea Gastrointestinal - Other changes] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 4090 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not regulated
DOT UN Number:	Not Applicable
DOT Hazard Class:	Not Applicable

Notes : The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment.

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Carbowax Polyethylene Glycol 8000 :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Sodium Benzoate NF/FCC Powder :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Citric Acid USP Granular Anhydrous :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Sorbitol-Sorbogem 834 :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Sodium Bicarbonate 5 Coarse :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Soda Ash Dense Grade 260 :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	3
HMIS Fire Hazard:	1
HMIS Reactivity:	2
HMIS Personal Protection:	X

Health Hazard	**3**
Fire Hazard	**1**
Reactivity	**2**
Personal Protection	**X**

Other Information: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). The customer is responsible for determining the appropriate PPE to be used for the task.
The National Fire Protection Association (NFPA) rating system is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. NFPA hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. NFPA hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. The NFPA system is intended to be interpreted and applied only by properly trained individuals to identify fire, health, and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

SDS Revision Date:	April 02, 2017
SDS Revision Notes:	Supercedes MSDS 05/1/2015
SDS Author:	Regulatory department