

## **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<sup>2</sup>

**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

<b>MATERIALS</b>	<b>CAS #</b>	<b>HAZARD</b>	<b>% WT.</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>
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/m <sup>3</sup> 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<sup>2</sup> 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

MSDS No. D008

**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

We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Heraeus Kulzer, Inc., it is the user's obligation to determine the conditions of safe use of the product.

**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:

<b>Eye Contact:</b>	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.
<b>Skin Contact:</b>	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.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
<b>Ingestion:</b>	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:

<b>Physical State:</b>	Tablet.
<b>Color:</b>	White and brown speckled
<b>Odor:</b>	Mint aroma
<b>Odor Threshold:</b>	Not determined.
<b>Boiling Point:</b>	Not determined.
<b>Melting Point:</b>	Not determined.
<b>Specific Gravity:</b>	Not determined.
<b>Solubility:</b>	Readily soluble in water
<b>Vapor Density:</b>	Not determined.
<b>Vapor Pressure:</b>	Not determined.
<b>Percent Volatile:</b>	Not applicable.
<b>Evaporation Rate:</b>	Not determined.
<b>pH:</b>	Not determined.
<b>Viscosity:</b>	Not determined.
<b>Coefficient of Water/Oil Distribution:</b>	Not determined.
<b>Flammability:</b>	Not determined.
<b>Flash Point:</b>	None.
<b>Lower Flammable/Explosive Limit:</b>	Not applicable.
<b>Upper Flammable/Explosive Limit:</b>	Not applicable.
<b>Auto Ignition Temperature:</b>	Not determined.
<b>Oxidizing Properties:</b>	Not determined.
<b>VOC Content:</b>	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-Sorboqem 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/m<sup>3</sup>/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

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