MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Pels® Plus™ Caustic Soda Beads
Product ID: 0040A
SYNONYMS: Sodium Hydroxide; Anhydrous Sodium Hydroxide, Caustic Soda; NaOH
ISSUE DATE: 08/24/2007
EDITION NO.: 17

PPG Industries, Inc.
One PPG Place, Pittsburgh, PA 15272, USA
24-hour Emergency Telephone Number: 1-412-434-4515
For Product Information (8am-5pm Eastern time):
1-800-243-6774 (C/A)

PREPARER: Product Safety, Chemicals

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material/CAS Number	Percent
Sodium Hydroxide 1310-73-2	96-100

Balance is water and other trace impurities.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER! Corrosive - Causes severe burns to eyes and skin. May cause irreversible eye damage. Inhalation of dust is highly irritating and possibly corrosive to the upper respiratory tract. Harmful or fatal if inhaled. Harmful or fatal if swallowed.

Environmental Hazard -- This product is toxic to fish. Keep out of lakes, streams, ponds, or other waters.

Precautions: Do not get in eyes, on skin, or on clothing. Corrosive to skin. Even a small amount in the eye can cause blindness. Do not breathe dust or mists from solutions. Use only with adequate ventilation. Ventilation must be sufficient to limit employee exposure to this product below permissible exposure limits. Do not swallow. When making solutions or diluting, only add caustic soda slowly to

surface of cold water while stirring. Do not add to warm or hot water, a violent eruption or explosive reaction can result. Avoid contact with organic materials and concentrated acids - may cause violent reactions. Caustic soda reacts with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze, generating hydrogen which is explosive. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke in work area.

4. FIRST AID MEASURES

INHALATION: Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

EYE/SKIN CONTACT: EYE: Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. Contact a poison control center, emergency room or physician right away as further treatment will be necessary. SKIN: Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

INGESTION: Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do Not induce vomiting. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

5. FIRE-FIGHTING MEASURES

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable.

SPECIAL FIREFIGHTING PROCEDURES: Contact with some metals (particularly magnesium, aluminum and galvanized zinc) can rapidly generate hydrogen, which is explosive. Emits toxic fumes under fire conditions. Fire-fighters must wear NIOSH approved pressure demand, self-contained breathing apparatus and full protective clothing when fighting chemical fires.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Only trained personnel equipped with NIOSH approved, full facepiece combination dust/mist respirators should be permitted in area. For dry material, use appropriate methods, shovels, brooms, and vacuums to clean up the spill. If mixed with water, or likely to become mixed with water or any liquid, dike area to contain spill. Reclaim if possible. Or, dilute spill with large amounts of water then neutralize with dilute acid. Use vacuum truck to pick up neutralized material for proper disposal. Properly neutralized liquid residues (pH 6 to 9) may be disposed of in waste water treatment facilities which allow the discharge of neutral salt solutions. After all visible traces have been removed, flush area with large amounts of water.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Wear appropriate personal protective equipment when handling this product. Never touch eyes or face with hands or gloves that may be contaminated with this product. When making solutions or diluting, only add caustic soda slowly to surface of cold water while stirring. Do not add to warm or hot water, a violent eruption or explosive reaction can result. Avoid contact with organic materials and concentrated acids - may cause violent reactions. Caustic soda reacts with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze, generating hydrogen which is explosive. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Follow appropriate tank entry procedures (see ANSI Z117.1 - 2003 Safety Requirements for Confined Spaces). Do not enter a storage tank or container (truck or rail) that has contained this product, even if it appears empty. Store in a cool, dry, well-ventilated place. Store indoors. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:
8-hour Time Weighted Average (TWA); 15-minute Short-Term Exposure Limit (STEL)

OSHA: The OSHA exposure limit(s) for Sodium Hydroxide: 2 mg/m^3 Ceiling.

ACGIH: The ACGIH exposure limit(s) for Sodium Hydroxide: 2 mg/m^3 Ceiling.

ONTARIO: The Ontario Exposure limit(s) for Sodium Hydroxide: 2 mg/m^{3}CEV.

RESPIRATORY PROTECTION: Where the potential for exposure exists use the appropriate regulatory compliant particulate filter respirator with full facepiece. Carefully read and follow the respirator manufacturer's instructions and information.

VENTILATION: Use local exhaust sufficient to maintain dust/mist levels below permissible exposure limits.

EYE AND FACE PROTECTION: Close fitting chemical safety goggles with faceshield.

PROTECTIVE GLOVES: Nitrile. Neoprene. Natural rubber.

OTHER PROTECTIVE EQUIPMENT: Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	2534°F (1390°C)
Vapor Density (Air=1):	Non-volatile
Specific Gravity (Water=1):	2.130
pH:	Strongly basic
FREEZING/MELTING POINT:	590-608°F (310-320°C)
SOLUBILITY (wt.% in water):	347g/100g water @ 100°C
Bulk Density (kg/M3):	70 lbs/cu.ft. (loose)
VOLUME % VOLATILE:	Non-volatile
VAPOR PRESSURE:	Non-volatile

Evaporation Rate:	Non-volatile
HEAT OF SOLUTION:	Exothermic
Physical State:	Solid Beads
Odor:	Odorless
COLOR:	White to Off-White

10. STABILITY AND REACTIVITY

Stability: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):
Contact with organic materials and concentrated acids may cause violent reactions. Contact with magnesium, aluminum, galvanized zinc, tin, chromium, brass and bronze generates explosive hydrogen. Reactions with various food sugars may form carbon monoxide. Reacts exothermically on contact with water.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Oxides of sodium.

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION LC50:	Corrosive
SKIN IRRITATION:	Corrosive.
EYE IRRITATION:	Corrosive.
ACUTE ORAL LD50:	Corrosive.

CARCINOGENICITY STATUS: This product is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, ACGIH, or OSHA.

MEDICAL CONDITIONS AGGRAVATED: None known.

EFFECTS OF OVEREXPOSURE:

ACUTE:

Eye/Skin: Causes severe burns to the eyes. Small quantities can result in permanent damage and/or loss of vision. For skin contact, corrosive action causes burns and frequently deep ulcerations with subsequent scarring. Prolonged contact destroys tissue. Dust or mist from solutions can cause irritant dermatitis.

Ingestion: Ingestion either in solid or liquid form can cause very serious damage to the mucous membranes or other tissues with which contact is made, and may be fatal.

Inhalation: Inhalation of dusts or mists can cause damage to the upper respiratory tract and to the lung tissue depending on severity of exposure. Effects can range from mild irritation of mucous membranes, severe pneumonitis and destruction of lung tissues.

CHRONIC: The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:
240 ug/l (Bluegill) 96-hour TLM LC50. Highly toxic to aquatic life.

ENVIRONMENTAL FATE:
No data at this time.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

Proper Shipping Name: Sodium Hydroxide, Solid
Hazard Class: 8 (Corrosive)
UN Number: UN1823
Packing Group: II
USA-RQ, Hazardous Substance and Quantity: 1000 lbs./454 kg (sodium hydroxide 1310-73-2)
Marine Pollutant: None
Additional Information: USA Shipments Only - Hazardous Substances are regulated in the USA when shipped above their Reportable Quantity (RQ).

15. REGULATORY INFORMATION

USA TSCA: All components of this product are listed on the TSCA Inventory.
EU EINECS: All components in this product are listed on EINECS or meet the polymer definition.
CANADA DOMESTIC SUBSTANCES LIST (DSL): This product and/or all of its components are listed on the Canadian DSL.
AUSTRALIA AICS: All components of this product are listed on AICS.
KOREA ECL: All components in this product are listed on the Korean Existing Chemicals Inventory (KECI).
JAPAN MITI (ENCS): All components in this product are listed on the Japanese Existing and New Chemical Substances (ENCS) chemical inventory.
PHILIPPINES PICCS: All of the components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).
CHINA IECSC: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC) or otherwise exempt.

SARA TITLE III:
SARA (311, 312) Hazard Class:
Acute Health Hazard. Reactive Hazard.
SARA (313) Chemicals:

Not listed.

SARA Extremely Hazardous Substance:
Not listed.

CERCLA Hazardous Substance:
The following materials are listed as CERCLA Hazardous Substances in Table 302.4 of 40 CFR Part 302: Sodium Hydroxide (1310-73-2) RQ = 1000 lbs./454 kg.

CALIFORNIA PROPOSITION 65: Warning: This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

CANADA REGULATIONS (WHMIS): Class E - Corrosive Material.

16. OTHER INFORMATION

Other Information:
NSF/ANSI Drinking Water Treatment Chemicals - Health Effects Listing - PPG Pels® Caustic Soda Beads are certified for maximum use at 100 mg/l under NSF/ANSI Standard 60.

In case of emergency in Canada, contact PPG Canada, Inc., B.P.2010, Beauharnois, Quebec J6N 3C3, 450-429-3552, or Canutec 613-996-6666.

The following has been revised since the last issue of this MSDS:
Date. Edition. Section 2 has been updated. Section 16 has been updated.

Previous revision date: 8/30/2005
Previous edition number: 016

NA = Not Available