MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Leslies Power Powder Pro
Product ID: 0461f
SYNONYMS: Calcium Hypochlorite Granular; Cal Hypo Granules; $Ca(OCl)_2$; MSDS No. 0461
ISSUE DATE: 01/02/2004
EDITION NO.: 8

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):
1-800-245-2974 (Cal Hypo)

PREPARER: Product Safety, Chemicals

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material/CAS Number	Percent
Calcium Hypochlorite 7778-54-3	>70
Calcium Chlorate 10137-74-3	<3
Calcium Carbonate 471-34-1	<2
Calcium Hydroxide 1305-62-0	<2
Lanthanum carbonate 6487-39-4	0 - 0.8

Note: Minimum 70% Available Chlorine. 30% inert ingredients (includes 5.5-8.5% water).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

quantities of water. Do not mix with any other chemicals. Contamination with moisture, acids, organic materials and other easily combustible materials such as petroleum, paint products, wood or paper may cause fire or explosion and the liberation of hazardous gases. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause violent reaction leading to fire or explosion. Very toxic to aquatic organisms.

Precautions: Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Irritating to nose and throat. Do not swallow. Do not eat, drink or smoke in work area. Wash hands after handling. Remove and wash contaminated clothing before reuse. Keep out of reach of children.

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: Not Applicable.

EXTINGUISHING MEDIA: Drench with large quantities of water only. Do not use dry chemicals or foams. Product supplies own oxygen, therefore attempts to smother fire with a wet blanket, carbon dioxide, dry chemical extinguisher or other means are not effective.

SPECIAL FIREFIGHTING PROCEDURES: Product decomposes at approximately 338-356°F (170-180°C) releasing oxygen gas. Container may rupture. Fire-fighters must wear NIOSH approved, pressure demand, self-contained breathing apparatus with full face piece for possible exposure to hazardous gases. Emits toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Use extreme caution in handling spilled material. Do not mix with any other chemicals. Contamination with moisture, acids, organics or other easily combustible materials such as petroleum, paint products, wood or paper may cause fire or violent decomposition. If fire or decomposition occurs in area of spill, immediately douse with plenty of water. Otherwise, sweep up all visible material using a clean (new, if possible), dry shovel and broom and dissolve material in

water. Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:
Store in a cool, dry, well-ventilated place. Keep in original container. Keep container closed when not in use. Keep away from heat, sparks, flames, direct sunlight, and other sources of heat, including lighted tobacco products. Use only a clean (new, if possible), dry scoop made of metal or plastic each time product is taken from the container. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause violent reaction leading to fire or explosion. Add this product only to water. Never add water to product. Always add the product to large quantities of water. May cause fire or explosion if mixed with other chemicals. Fire may result if contaminated with acids, organic materials and other easily combustible materials such as oil, kerosene, gasoline, paint products wood and paper. Do not reuse container. Residual material remaining in empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection. Do not contaminate water, food, or feed by storage or disposal of this product.

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 Calcium hydroxide: 5 mg/m^3 TWA. Calcium carbonate: 15 mg/m^3 (total dust) 5 mg/m^3 (respirable dust)

ACGIH: The ACGIH exposure limit(s) for Calcium hydroxide: 5 mg/m^3 TWA. Calcium carbonate: 10 mg/m^3 (total dust) 3 mg/m^3 (respirable nuisance particulate) TWA.

PPG (IPEL): Calcium hypochlorite: 1 mg/m^3 TWA. 2 mg/m^3 STEL.

RESPIRATORY PROTECTION: Where the potential for exposure to dust exists, use the appropriate regulatory compliant full facepiece air-purifying respirator with acid gas cartridge and particulate prefilter. Carefully read and follow the respirator manufacturer's instructions and information.

VENTILATION: Use local exhaust or general room/dilution ventilation sufficient to maintain employee exposure below permissible exposure limits.

EYE AND FACE PROTECTION: Splashproof goggles and faceshield.

PROTECTIVE GLOVES: Butyl rubber. Neoprene. Nitrile.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: Decomposes at approximately 338-356°F (170-180°C)
Vapor Density (Air=1): NA
Specific Gravity (Water=1): NA
pH: Alkaline
FREEZING/MELTING POINT: NA
SOLUBILITY (wt.% in water): 217 g/l @ 27°C
Bulk Density: 65-67 lbs./cu.ft.
VOLUME % VOLATILE: NA
VAPOR PRESSURE: NA
Evaporation Rate: NA
HEAT OF SOLUTION: Slightly exothermic
Physical State: Granules
Odor: Slight chlorine
COLOR: White

10. STABILITY AND REACTIVITY

Stability: Unstable above 338°F (170°C).

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):
contamination. Excessive heat above 338°F (170°C). Moisture. acids. reducing agents. Organics. Combustible materials. Petroleum products. Paint products. Wood and paper.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Acid or ammonia contamination will release toxic gases. Excessive heat will cause decomposition resulting in the release of oxygen and chlorine gas.

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION LC50: No mortality at 3.5 mg/l (rat) (1 hour). Slight to very low toxicity.
ACUTE DERMAL LD50: >1000 mg/kg. (rabbit) Slight to very low toxicity.
SKIN IRRITATION: Corrosive.
EYE IRRITATION: Corrosive.
ACUTE ORAL LD50: 850 mg/kg. (rat) Moderate toxicity.

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

Inhalation: Inhalation of calcium hypochlorite dust and deposition of particles in the respiratory tract can lead to irritation of the tissue and cause a variety of effects. These effects are dependent on concentration and include: upper respiratory tract irritation, nasal congestion, coughing, sore throat, laryngitis and shortness of breath. In operations where there are high concentrations of respirable particulates, pulmonary edema (fluid in the lung) may be produced. If not treated immediately, pulmonary edema can be life threatening. Since this product is in granular or tablet form, particles of respirable size are not generally encountered.

Eye/Skin: Calcium hypochlorite is corrosive to the eyes. Contact of calcium hypochlorite dust with the eyes, even a minute amount for a short duration, can cause severe irritation and even blindness. Contact with the skin may cause severe irritation, burns, or tissue destruction. In studies utilizing rabbits, the skin irritation score was 8/8 and the eye irritation score was 98.5/110.

Ingestion: Calcium hypochlorite, if swallowed, causes severe burns to the digestive tract and can be fatal.

CHRONIC:

Genotoxicity: Calcium hypochlorite produced positive responses in in-vitro assays using bacterial systems (the Ames test) and chromosomal aberrations in Chinese hamster fibroblasts. In a whole animal experiment (mouse micronucleus test), exposures ranging from 20 to 160 mg/kg produced no compound related chromosomal abnormalities.

Carcinogenisis: Although no study has been conducted with calcium hypochlorite, the carcinogenic potential of sodium hypochlorite was studied in F344 rats. After 104 weeks of drinking water containing up to 2000 ppm sodium hypochlorite, there was no evidence that this chemical produced any carcinogenic response. In addition, this exposure did not result in any adverse effects

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:
0.088 mg/l (Bluegill) 96-hour LC50. Extreme toxicity.

ENVIRONMENTAL FATE:
No data at this time.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being used. If this is not possible, dissolve material in water and carefully neutralize dissolved material by adding hydrogen peroxide (one pint of 35% hydrogen peroxide solution per pound of calcium hypochlorite to be neutralized) then dilute the neutralized material with plenty of water and flush to sewer. Note: Only properly neutralized material should be flushed to sewer. Unneutralized material can cause environmental damage to receiving water or can interfere with treatment plant operation. Care must be taken when using or disposing of

chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the U.S. Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, as well as any other relevant Federal, State, or local laws/regulations regarding disposal.

14. TRANSPORT INFORMATION

Proper Shipping Name: Calcium Hypochlorite, Hydrated
Hazard Class: 5.1 (Oxidizer)
UN Number: UN2880
Packing Group: II
USA-RQ, Hazardous Substance and Quantity: 10 lbs./4.5 kg. (calcium hypochlorite)
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.
EUROPE EINECS: All components in this product are listed on EINECS.
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).

SARA TITLE III:
SARA (311, 312) Hazard Class:
Acute Health Hazard. Reactive Hazard. Fire 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: Calcium Hypochlorite (7778-54-3) RQ = 10 lbs./4.54 kg.

16. OTHER INFORMATION

Other Information:
NSF Drinking Water Treatment Chemicals Listing - PPG calcium hypochlorite is certified for maximum use at 14 mg/L under NSF/ANSI Standard 60.

The following has been revised since the last issue of this MSDS:
Date. Edition. Section 1 has been updated. Section 5 has been updated. Section 8 has been updated. Section 9 has been updated. Section 11 has been updated. Section 12 has been updated. Section 16 has been updated.

Previous revision date: 08/14/2003
Previous edition number: 007

NA = Not Available