



SAFETY DATA SHEET

According to EC Directive 2001/58/EC

Product ID: 51437
Revision Date: 02/04/2008
Revision Number: 3

English

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the Substance/Preparation:

Product Name: Refresh Calcium Hypochlorite Granules
Product Code: 51437
SYNONYMS: Calcium Hypochlorite Granular; Cal Hypo Granules; $\text{Ca}(\text{OCl})_2$; MSDS No. 0310
Use of the Substance: Disinfectants and general biocidal products.

Company/Undertaking Identification:

Manufactured By: PPG Industries, Inc.
One PPG Place
Pittsburgh, Pennsylvania 15272
USA

In Europe: PPG Industries France
3 Z.A.E. Les Dix Muids
P.O. Box 89
59583 Marly Cedex France

Emergency Telephone Number: ++1 412 434 4515 (USA)
++32 1 458 4545 (Europe)

E-mail Address: EurMdsContact@ppg.com

2. HAZARDS IDENTIFICATION

Classification: O R8, Xn R22, C R34, N R50, R31

Most important hazards:

Causes burns.
Harmful if swallowed.
Contact with combustible material may cause fire.
Contact with acids liberates toxic gas.
Very toxic to aquatic organisms.

Note: Minimum 65% Available Chlorine (including 5.5-8.5% water).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

Material/ CAS Number	CAS-No	Percent	EC-No	Classification
Calcium Hypochlorite 7778-54-3	7778-54-3	>65	231-908-7	O; R8 Xn; R22 R31 C; R34 N; R50
Calcium Chlorate 10137-74-3	10137-74-3	<2	233-378-2	NotApplicable
Calcium Carbonate 471-34-1	471-34-1	<2	207-439-9	NotApplicable
Calcium Hydroxide 1305-62-0	1305-62-0	<2	215-137-3	NotApplicable

For the full text of the R phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General Advice:	Show this safety data sheet to the doctor in attendance. Remove from exposure, lie down.
Inhalation:	Immediate medical attention is not required. Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information. Symptoms may be delayed.
Skin Contact:	Immediate medical attention is required. Wash off immediately with plenty of water. Use a mild soap if available. Call a physician or Poison Control Centre immediately.
Eye Contact:	Immediate medical attention is required. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Keep eye wide open while rinsing. Call a physician or Poison Control Centre immediately.
Ingestion:	Immediate medical attention is required. Remove from exposure, lie down. Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Centre immediately.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water only. Smothering ineffective - product supplies own oxygen.
Extinguishing media which must not be used for safety reasons:	Dry powder. Dry chemical. Foam.
Specific Hazards:	Product decomposes at approximately 170-180°C releasing oxygen gas. Fire or intense heat may cause violent rupture of packages. Contact with acids liberates toxic gas. Contact with combustible material may cause fire.
Hazardous Decomposition Products:	Acids or ammonia contamination will release toxic gases. Oxygen. Chlorine

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

Special Protective Equipment for Firefighters:

In the event of fire, wear self contained breathing apparatus. Use personal protective equipment.

Specific Methods:

Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES**Personal Precautions:**

Risk of violent reaction. Risk of ignition. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment. Evacuate personnel to safe areas.

Environmental Precautions:

Prevent product from entering drains. Do not allow material to contaminate ground water system. Keep away from living quarters.

Methods for Clean Up:

Protect from contamination. Dispose of promptly. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE**Handling:**

Handle and open container with care. Use only a clean (new, if possible), dry scoop made of metal or plastic, each time product is taken from the container. Contamination may cause violent reaction leading to fire or explosion. Do not reseal container if contamination is suspected. When diluting, always add the product to water, never the other way around. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.

Storage:

Keep away from combustible material. Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Products:

Do not store near acids. Ammonia. Reducing agents. Organics. Combustible materials. Petroleum products. Paint products. Wood and paper.

Specific use(s):

Take notice of the directions of use on the label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Engineering Measures:**

Ensure adequate ventilation, especially in confined areas.

Exposure Limit Values:

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

Material/ CAS Number	ACGIH	The United Kingdom	Belgium	France	Germany
Calcium Carbonate 471-34-1	Not Established.	10 mg/m ³ TWA (inhalable) 4 mg/m ³ TWA (respirable) 30 mg/m ³ STEL (inhalable) 12 mg/m ³ STEL (respirable)	10 mg/m ³ TWA	10 mg/m ³ VME	Not Established.
Calcium Hydroxide 1305-62-0	5 mg/m ³ TWA	5 mg/m ³ TWA 15 mg/m ³ STEL	5 mg/m ³ TWA	5 mg/m ³ VME	Not Established.

Material/ CAS Number	The Netherlands	Ireland	Norway	Italy	Switzerland
Calcium Carbonate 471-34-1	10 mg/m ³ MAC	10 mg/m ³ TWA (inhalable) 4 mg/m ³ TWA (respirable)	Not Established.	Not Established.	3 mg/m ³ MAK (respirable)
Calcium Hydroxide 1305-62-0	Not Established.	5 mg/m ³ TWA	5 mg/m ³ TWA 10 mg/m ³ STEL	Not Established.	5 mg/m ³ MAK (inhalable)

Key: TWA - 8-hour Time-Weighted Average. STEL - 15-minute Short-Term Exposure Limit. VLE - French Short-Term Exposure Limit. VME - French Occupational Exposure Limit (8 hr). MAK - Maximum Permissible Concentration. MAC - The Netherlands Occupational Exposure Limit (8 hr). OEL - Occupational Exposure Limit.

Personal Protective Equipment:**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.

Hand Protection:

Butyl rubber. Neoprene. Nitrile rubber.

Break Through Time:

No data available.

Eyes:

Splashproof goggles and faceshield.

Skin:

Boots. Apron. Chemical suits should be used when necessary to prevent skin contact.

Hygiene Measures:

When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing.

Environmental Exposure Controls:

Prevent product from entering drains. Do not contaminate surface water.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information:**Physical State:**

Granules

Product ID: 51437
 Product Name: Refresh Calcium Hypochlorite Granules

Appearance: White
Odor: slight chlorine

Important Health Safety and Environmental Information:

Flash Point (°C): Not applicable.
Autoignition Temperature: No data available.
Vapour Pressure:
 (mm Hg) No data available.
Vapor Density (Air=1): No data available.
Evaporation Rate: No data available.
Water Solubility (%): 217 g/l @ 27°C
pH: Alkaline

Other Information:

Boiling Point or Range (°C): No data available.
Melting Point or Range(°C): No data available.
Specific Gravity (Water=1): No data available.
Bulk Density (kg/m³): 65-67 lbs./cu.ft.
% Volatile (by weight): No data available.

10. STABILITY AND REACTIVITY

Stability: Unstable above 170°C. Hazardous polymerisation does not occur.

Conditions to Avoid: Contact with combustible material may cause fire. Protect from contamination. Excessive heat above 170°C. Moisture.

Materials to Avoid: Acids. Ammonia. Reducing agents. Organic materials. Combustible materials. Petroleum products. Paint products. Wood and paper.

Hazardous Decomposition Products: Acids or ammonia contamination will release toxic gases. Oxygen. Chlorine

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Local effects Causes severe caustic burns to skin and eyes. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Symptoms may be delayed. Irritating to respiratory system. May cause throat pain and cough. Ingestion causes burns of the upper digestive and respiratory tracts. Harmful if swallowed.

Material/ CAS Number	ORAL LD50 (mg/kg)	DERMAL LD50 (mg/kg)	INHALATION LC50 (mg/l)
Calcium Hypochlorite 7778-54-3	850 mg/kg (rat) - Moderate toxicity.	>1000 mg/kg (rabbit) - Slight to very low toxicity.	No mortality at 3.5 mg/l (rat) (1 hour) - Slight to very low toxicity.

Dermal Sensitisation Data for this Product: No data available.

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

Respiratory Sensitisation Data for this Product: No data available.

LONG TERM TOXICITY: Avoid repeated exposure.

Ingredient Target Organ/Chronic Effects:

- Eye - Skin - Respiratory tract

Mutagenicity Toxicity: In vitro tests have shown mutagenic effects on bacterial cultures
Mouse Micronucleus Study- -Negative

Reproductive Toxicity: This has not been tested for this product.

Specific Effects: Not carcinogenic (IARC, OSHA, ACGIH, NTP).

Key: IARC - International Agency for Research on Cancer. OSHA - Occupational Safety and Health Administration (US). ACGIH - American Conference of Governmental Industrial Hygienists. NTP - National Toxicology Program.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: LC50: 0.088 mg/L(96 hr bluegill sunfish) - Very toxic to aquatic organisms.
Do not allow material to contaminate ground water system.

ENVIRONMENTAL FATE:

Mobility: Soluble.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL / CHEMICAL:

Hydrolysis: No information available.
Photolysis: No information available.

ADDITIONAL INFORMATION: No information available.

13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products: Dispose of in accordance with local regulations. Taking into account local regulations the product may be disposed of as waste water after neutralisation.

Contaminated Packaging: Clean container with water. Empty containers should be taken for local recycling, recovery or waste disposal.

Further Information: According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

14. TRANSPORT INFORMATION

ADR/RID:

UN Number:	UN2880
Proper shipping name:	Calcium Hypochlorite, Hydrated
Hazard Class:	5.1
Packaging Group:	II

ICAO/IATA:

UN Number:	UN2880
Proper shipping name:	Calcium Hypochlorite, Hydrated
Hazard Class:	5.1
Packaging Group:	II

IMDG:

UN Number:	UN2880
Proper Shipping Name:	Calcium Hypochlorite, Hydrated
Hazard Class:	5.1
Packaging Group:	II
Marine Pollutant:	Yes

US DOT:

UN Number:	UN2880
Proper Shipping Name:	Calcium Hypochlorite, Hydrated
Hazard Class:	5.1 (Oxidizer)
Packing Group:	II
USA-RQ, Hazardous Substance and Quantity:	10 lbs./4.5 kg. (calcium hypochlorite)
Marine Pollutant:	Regular

15. REGULATORY INFORMATION

EC LABELING REQUIREMENTS: The product is classified and labelled in accordance with EC directives or respective national laws.

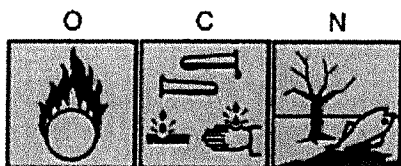
Contains: Calcium Hypochlorite (231-908-7)

Indication of Danger:

O - Oxidizing.

C - Corrosive.

N - Dangerous for the environment.



Risk Phrases:

Product ID: 51437

Product Name: Refresh Calcium Hypochlorite Granules

R 8 - Contact with combustible material may cause fire.

R22 - Harmful if swallowed.

R31 - Contact with acids liberates toxic gas.

R34 - Causes burns.

R50 - Very toxic to aquatic organisms.

Safety Phrases:

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

S 1/2 - Keep locked-up and out of the reach of children.

Warning! Do not use together with other products. May release dangerous gases (chlorine).

EU EINECS: All components in this product are listed on EINECS or meet the polymer definition.

16. OTHER INFORMATION

Text of R Phrases Mentioned in Section 3:

Risk Phrases:

R 8 - Contact with combustible material may cause fire.

R22 - Harmful if swallowed.

R31 - Contact with acids liberates toxic gas.

R34 - Causes burns.

R50 - Very toxic to aquatic organisms.

Reason for Revision: Date. Edition. The MSDS has been reformatted.

Prepared By: Product Safety, Chemicals

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

The information contained in this Safety Data Sheet is provided in accordance with the requirements of the Chemicals (Hazard Information and Packaging) Regulations. - The provision of the Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.

End of Safety Data Sheet