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## SAFETY DATA SHEET

### Section 1- IDENTIFICATION

COMPOSITION <b>Ca</b>		PRODUCT NAME <b>Calcium</b>
SUPPLIER: <b>Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030</b>	RECOMMENDED USE: <b>Laboratory Chemicals Scientific Research</b>	EMERGENCY TELEPHONE NUMBERS <b>US: 800-424-9300 International: 001-703-527-3887</b>

### Section 2- HAZARD(S) IDENTIFICATION

<b>Physical Hazards:</b> -Pyrophoric solids: Category 1 -Substances and Mixtures, which in contact with water, emit Flammable Gases: Category 2 (H261)	
<b>Health Hazards:</b> -Skin corrosion/irritation: Category 1 -Serious eye damage/eye irritation: Category 1	<b>Environmental Hazards:</b> Not Classified <b>OSHA Define Hazards:</b> Not Classified
<b>LABEL ELEMENTS: Signal Word: Danger</b>	
	
<b>HAZARD STATEMENTS</b>	
-H261: In contact with water, releases flammable gas.	
<b>PRECAUTIONARY STATEMENTS</b>	
-P223: Do not allow contact with water. Keep away from any possible contact with water, because of violent reaction and possible flash fire.	
-P231+P232: Handle under inert gas. Protect from moisture.	
-P280: Wear protective gloves/protective clothing/eye protection/face protection.	
-P335+P334: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages.	
-P370+P378: In case of fire, use dry sand, dry chemical, or alcohol-resistant foam to extinguish.	
-P402+P404: Store in a dry place. Store in a closed container.	
-P501: Dispose of contents/container to an approved waste disposal plant.	
<b>Hazards not otherwise classified (HNOC):</b> -None identified.	

### Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Molecular Weight
Calcium	7440-70-2	40.08 g/mol

## Section 4- FIRST AID MEASURES

**GENERAL ADVICE:** Consult a physician. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the physician in attendance.

**INHALATION:** Remove victim from exposure to fresh air. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Call a poison control center or doctor/physician if you feel unwell.

**SKIN CONTACT:** Wash off with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if irritation develops and/or persists.

**EYE CONTACT:** Do not rub eyes. Flush eyes with plenty of water, lifting upper and lower lids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and/or persists.

**INGESTION:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a poison control center or doctor/physician if you feel unwell.

**MOST IMPORTANT SYMPTOMS/EFFECTS:** The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

### INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

**NEEDED:** No data available

## Section 5- FIREFIGHTING MEASURES

### Suitable Extinguishing Media:

Dry Sand, Sodium Chloride Powder, Graphite Powder, or Met-L-X Powder

### Unsuitable Extinguishing Media:

Water

### Specific Hazards Arising from the Chemical:

No information available

### Protective Equipment & Precautions for Firefighters:

As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

### Specific Methods:

Use standard firefighting procedures and consider the hazards of other involved materials.

### General Fire Hazards:

No information available.

## Section 6- ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Evacuate personnel to safe areas and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection see section 8.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods for Containment & Clean Up:

Following product recovery, flush area with water. Keep in suitable, closed containers for disposal. For waste disposal, see Section 13 of SDS.

## Section 7- HANDLING AND STORAGE

**Handling:** Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition. No smoking.

**Storage:** Store in original tightly closed container in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Handle and store under inert gas. Air sensitive.

Storage Class (TRGS 510): Hazardous materials, which set free flammable gases upon contact with water.

## Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines:

**Occupational Exposure Limits:** No PEL, TLV, or other recommended exposure limit values noted for substance

**Biological Limit Values:** No biological exposure limits noted for this substance

**Appropriate Engineering Controls:** Follow standard monitoring procedures.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday. When using do not smoke, eat, or drink. Keep away from food and drink. Wash thoroughly after handling and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

### Personal Protective Equipment:

**Eye/Face Protection:** Safety glasses with side shields or goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin and Body Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Flame retardant protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or Type P3 (EN143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## Section 9- PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Form:** Solid

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting Point/Range:** 842°C (1,547°F)

**Initial Boiling Point/Range:** 1,484°C (2,703°F)

**Flash Point:** No data available

**Evaporation Rate:** No data available

**Flammability (solid, gas):** Flammable solid

**Flammability Limits:**

**Upper:** No data available

**Lower:** No data available

**Explosive Limits:**

**Upper:** No data available

**Lower:** No data available

**Vapor Pressure:** No data available

**Vapor Density:** No data available

**Relative Density:** No data available

**Solubility (Water):** No data available

**Partition coefficient; n-octanol/water:** No data available

**Auto Ignition Temperature:** No data available

**Decomposition Temperature:** No data available

**Viscosity:** No data available

**Explosive Properties:** No data available

**Oxidizing Properties:** No data available

**Density:** 10.48 g/cm<sup>3</sup> estimated [1.54 g/cm<sup>3</sup> estimated at 20°C]

## Section 10- STABILITY AND REACTIVITY

**Reactive Hazard:** No data available

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Reacts violently with water

**Conditions to Avoid:** Exposure to moisture. Contact with incompatible products.

**Incompatible Materials:** Strong oxidizing agents, alcohols

**Hazardous Decomposition Products:**

Hazardous decomposition products formed under fire conditions – Calcium Oxides  
Other decomposition products - No data available

## Section 11- TOXICOLOGICAL INFORMATION

**Information on likely Routes of Exposure:**

**Inhalation:** No information available

**Skin Contact:** No information available

**Eye Contact:** No information available

**Ingestion:** Expected to be a low ingestion hazard

**Symptoms related to the physical, chemical and toxicological characteristics:** None known

**Information on Toxicological Effects:**

**Acute Toxicity:** No information available

**Skin Corrosion/Irritation:** No information available

**Serious eye damage/irritation:** No information available

**Respiratory or Skin Sensitization:** No information available

**Carcinogenicity:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

**Germ Cell Mutagenicity:** No information available

**Reproductive Toxicity:** No information available

**Development Effects:** No information available

**Specific Target Organ Toxicity – single exposure:** No information available

**Specific Target Organ Toxicity – repeated exposure:** No information available

**Aspiration Hazard:** No information available

**Chronic Effects:** No information available

**-To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.**

## Section 12- ECOLOGICAL INFORMATION

**Toxicity:** No information available

**Persistence and Degradability:** No information available

**Bioaccumulation/Accumulation:** No information available

**Mobility in Soil:** No information available




**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other Adverse Effects:** No information available

## Section 13- DISPOSAL CONSIDERATIONS

**Waste Disposal Methods:** Collect and reclaim or dispose in sealed containers to a licensed waste disposal site. Dispose of contaminated packaging as unused product. Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 14- TRANSPORT INFORMATION

<p><b>DOT:</b></p> <p><b>UN-No:</b> UN1401  <b>Proper Shipping Name:</b> Calcium  <b>Hazard Class:</b> 4.3  <b>Packing Group:</b> II  <b>Special Precautions for User:</b> Read safety instructions, SDS and emergency procedures before handling.  <b>Special Provisions:</b> IB7, IP2, T3, TP33  <b>Packaging Exceptions:</b> 151  <b>Packaging Non-Bulk:</b> 212  <b>Packaging Bulk:</b> 241</p>	
<p><b>IATA:</b></p> <p><b>UN-No:</b> UN1401  <b>Proper Shipping Name:</b> Calcium  <b>Hazard Class:</b> 4.3  <b>Packing Group:</b> II  <b>Environmental Hazards:</b> No  <b>ERG Code:</b> 4W  <b>Special Precautions for User:</b> Read safety instructions, SDS and emergency procedures before handling.  <b>Other Information:</b>  <b>Passenger and Cargo Aircraft:</b>  Allowed  <b>Cargo Aircraft Only:</b> Allowed</p>	
<p><b>IMDG:</b></p> <p><b>UN-No:</b> UN1401  <b>Proper Shipping Name:</b> Calcium  <b>Hazard Class:</b> 4.3  <b>Packing Group:</b> II  <b>Environmental Hazards:</b>  <b>Marine Pollutant:</b> No  <b>EmS-No:</b> F-G, S-O  <b>Special Precautions for User:</b> Read safety instructions, SDS and emergency procedures before handling.</p>	

## Section 15- REGULATORY INFORMATION

**US Federal Regulations:**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not listed

**U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed

**SARA Hazard Categories:**

**Immediate Hazard:** Yes

**Delayed Hazard:** No

**Fire Hazard:** Yes

**Pressure Hazard:** No

**Reactive Hazard:** Yes

**SARA 302 Extremely Hazardous Substance:** Not Listed

**SARA 311/312 Hazardous Chemical:** Yes

**SARA 313 (TRI Reporting):** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

**Safe Drinking Water Act (SWDA):** Not regulated

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** Not regulated

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** Not regulated

**US California Controlled Substances. CA Dept of Justice (California Health & Safety Code Section 11100):** Not Listed

**US California Proposition 65:** Not listed

**US Massachusetts Right-To-Know Substances:** Calcium (CAS No. 7440-70-2)

**US New Jersey Right-To-Know Substances:** Calcium (CAS No. 7440-70-2)

**US New Jersey Worker and Community Right-To-Know:** Not regulated

**US Pennsylvania Right-To-Know Hazardous Substances:** Calcium (CAS No. 7440-70-2)

**US Pennsylvania Worker and Community Right-To-Know:** Calcium (CAS No. 7440-70-2)

**US Rhode Island Right-To-Know:** Not regulated

## Section 16- OTHER INFORMATION

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

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