# MATERIAL SAFETY DATA SHEET

Revision #: 03

## Section 1 - Product Identification & Use

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|---|---|
| Product Name: | **Cal - Brite, C.I.P. Acid Cleaner Concentrate.** |
| Product Use: | Removal of milk stone in c.i.p. systems. |
| WHMIS Classification: | Class E, Corrosive Liquids |
| TDG Classification: | Corrosive Acid Solutions, N.O.S.<br>UN 1760, Class 8, packing group II |
| Manufacturer: | Advance Chemicals Ltd.<br>2023 Kingsway Avenue<br>Port Coquitlam, BC V3C 1S9<br>Phone: (604) 945-9666,<br>Fax: (604) 945-9617 |
| Emergency phone: | CANUTEC 24 hrs (613) 996-6666 |

## Section 2 - Hazardous Ingredients

| Hazardous Components | %(w/w) | C.A.S. No. | $LD_{50}$ & $LC_{50}$ |
|---|---|---|---|
| Phosphoric acid | 30-65 | 7664-38-2 | (oral, rat) 1.53 g/kg |
| Nitric acid | 10-20 | 7697-37-2 | TLV 2ppm in air |
| Copper sulphate | 1-5 | 7758-98-7 | (oral, rat) 300 mg/kg |

## Section 3 - Physical Data

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|---|---|
| Physical state: liquid | Boiling point: no data |
| Liquid density: 1.241g/mL @ 25°C | Freezing point: no data |
| pH: 10% aqueous sol.: 0.91 | Solubility in water: 100% |
| Vapour pressure: no data found | Evaporation rate: no data |

**Odour & Appearance:** The product is a clear, blue liquid solution. There may be a sharp acid like odour above the open liquid.

## Section 4 - Fire or Explosion Hazard

**Flammability:** The product is not considered to be flammable.

**Extinguishing media:** Foam by manufacturer's recommended techniques for large fires. Use water to cool fire exposed containers to prevent vapour build-up and rupture. Water may also be used to flush spills away from dangerous exposures.

**Hazardous Combustion Products:** This product is considered to be non-flammable, but may decompose when exposed to higher than normal temperatures, producing toxic phosphorous oxide and nitric oxide fumes. Wear self-contained breathing apparatus.

## Section 5 - Reactivity Data

**Stability:** Will decompose when exposed to high temperatures, producing toxic phosphorous oxide and nitric oxide fumes.

**Incompatible substances:** Metals, sulphides, cyanides, fluorides, carbides, silicates and strong oxidizing agents. Do not mix Cal-Brite into, or allow direct contact with sodium hypochlorite solutions (bleach). Dangerous chlorine gas will be produced.

**Polymerization:** Will not occur.

**Conditions to Avoid:** Contact with metals produces hydrogen gas, which can form flammable or explosive mixtures in air. Will generate heat when mixed with alkalies. Reaction with sulphides, phosphides, cyanides, acetylides, fluorides, silicides, and carbides, releases flammable and/or poisonous gasses.

**Hazardous Combustion Products:** This product is considered to be non-flammable, but will decompose when exposed to higher than normal temperatures, producing toxic phosphorous oxide and nitric oxide fumes. Wear self-contained breathing apparatus.

## Section 6 - Toxicological Properties

**Acute Toxicity:** There is no evidence that phosphorous poisoning can result from contact with phosphoric acid. The chance of pulmonary edema resulting from a mist or spray inhalation is very remote. (from China National Chemicals Import Export Corp., 1991)

**Skin contact:** Burning, inflammation, blisters.

**Eye contact:** Burning, watering.

**Inhalation:** Irritation of mucous membranes, watering of eyes, difficulty breathing, salivation, nausea.

**Ingestion:** Pain in swallowing, intense thirst, abdominal pain, nausea, concentrated solutions may be fatal.

## Section 7 - Preventative Measures

**Personal Protective Equipment:** Avoid contact with skin and eyes. Wear chemical protective gloves, goggles and face shield, rubber apron and boots. Eye wash fountains and safety shower facilities should be provided nearby for emergency use.

**Respiratory protection:** For acidic mist, use a high efficiency particulate respirator equipped with a full-face piece.

**Ventilation Requirements:** This product should be used in a well-ventilated area at all times. If the solution is to be heated or a mist will be generated during product application, then local exhaust ventilation will be necessary.

**Action to take for spills & leaks:** Wear chemical protective clothing, rubber gloves and suitable respiratory protection. Small spills should be wiped up with absorbent material and disposed of in government approved waste containers. The spilled product can be neutralized with soda ash (sodium carbonate) or baking soda (sodium bicarbonate) and wet down with a little water to form a slurry. The spill area may then be flushed with large quantities of water. Larger spills should be contained by diking with sand, soil or other absorbent, non-combustible material, then transferred into approved waste containers for proper disposal. Keep product out of sewers, storm drains, surface run-off water and soil. Restrict access to non-protected personnel. Comply with all government regulations on spill reporting, handling and disposal of waste.

**Disposal methods:** Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, provincial and local regulatory agencies to ascertain proper disposal procedures.

**Note:** Empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

**Storage & Handling Precautions:** Warning, harmful or fatal if swallowed. Causes eye, skin and respiratory irritation. Avoid contact with eyes and repeated contact with skin and clothing. Do not ingest. Keep away from sources of heat and open flame. Keep container tightly closed when not in use. Store upright in a cool, dry, well-ventilated place away from incompatible materials. Do not store product in direct sunlight. Do not use pressure to empty container. Wash thoroughly after handling. Use with adequate ventilation. Tanks must be grounded and ventilated, and ensure proper electrical grounding procedures are in place during product transfer. Pressure may build up in the product container over a period of time, and more frequently in hot weather. Once a week, carefully loosen the bungs or caps to slowly release any pressure.

**Repair and Maintenance Precautions:** Do not cut, grind, weld or drill in, on or near this container.

## Section 8 - First Aid Measures

**If inhaled:** Remove victim to fresh air. Give artificial respiration if not breathing. Get immediate emergency medical attention. Administer medical oxygen if breathing is difficult.

**In case of eye contact:** Immediately flush eyes with clean water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Get immediate emergency medical attention.

**In case of skin contact:** Immediately flush skin with plenty of clean running water for at least fifteen (15) minutes. Remove contaminated clothing and shoes. If irritation persists after washing, get immediate medical attention. Wash clothes before re-use.

**In case of ingestion or swallowing:** If victim is conscious and medical attention is not immediately available, dilute stomach contents by giving large amounts of water. Do not induce vomiting. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS VICTIM. GET IMMEDIATE EMERGENCY MEDICAL ATTENTION. If vomiting occurs, clear and rinse patient's mouth with water and have the patient drink more water.

## Section 9 - Preparation Information

Advance Chemicals Limited expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided. The information contained herein is offered only as a guide to the handling of this specific product, and has been prepared in good faith by technically knowledgeable personnel. This M.S.D.S. is not intended to be all-inclusive, and the manner and conditions of use may involve other and additional considerations.

Revised: 5 July 2004; 22 November 2006; 22 October 2009