

MATERIAL SAFETY DATA SHEET

Revision #: 01

Section 1 - Product Identification & Use

Product Name: **KLO-2 Activator**
Product Use: Chlorine dioxide generation
TDG Classification: Not controlled under TDG (Canada)
WHMIS Classification: E, Corrosive materials
Supplier: Advance Chemicals Ltd.
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Section 2 - Hazardous Ingredients

Components	%wt	C.A.S. No.	LD ₅₀ & LC ₅₀
Citric acid	60-100	77-92-9	3000mg/kg (oral, rat)

Section 3 - Physical Data

Physical state: solid Boiling point: decomposes
Odour threshold (ppm): N/A Vapour density: N/A
Liquid density: N/A Freezing point (°C): 153
pH: 2 (1% aqueous solution) Solubility in water: 39%
Vapour pressure: N/A Evaporation rate: N/A

Odour & Appearance: Odorless, white powder.

Section 4 - Fire or Explosion Hazard

Flammability: May be combustible at high temperatures.

Extinguishing media: Use an extinguishing media for surrounding the fire, or all-purpose foam by manufacturer's recommended techniques for large fires.

Hazardous Combustion Products: Carbon oxides (CO, CO₂).

Section 5 - Reactivity Data

Stability: Stable.

Incompatible substances: Oxidizing agents, reducing agents, alkalies.

Polymerization: Will not occur.

Conditions to Avoid: Metal nitrates, alkali carbonates and bicarbonates, potassium tartrate.

Hazardous Combustion Products: Carbon oxides (CO, CO₂).

Section 6 - Toxicological Properties

Acute Toxicity: Not available.

Exposure Limits: Not available.

Irritancy: Skin and eye irritant.

Sensitization: None known.

Carcinogenicity: Not available.

Reproductive Toxicity: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic Products: Not available.

Section 7 - Preventative Measures

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

Respiratory protection: A NIOSH/MSHA-approved full face piece respirator equipped with acid gas, dust, mist, fume cartridges for concentrations up to 20 mg/m³ particulate.

Ventilation Requirements: Use respirator in poorly ventilated or confined areas.

Action to take for spills & leaks: Wear chemical protective clothing and rubber gloves. Small spills should be wiped up with absorbent material and disposed of in government approved waste containers. Larger spills should be contained by diking with sand, soil or other absorbent, non-combustible material, and 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, and 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. Empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

Storage & Handling Precautions: Store in a clean, cool, well-ventilated area, away from organic chemicals, strong bases, any readily oxidizable material. Protect from physical damage. Avoid contact with eyes and repeated contact with skin and clothing. Keep away from sources of heat and open flame. Keep container tightly closed when not in use.

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.

In case of eye contact: Immediately flush eyes with clean water for at least twenty (20) 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. Wash and launder clothes before re-use. If irritation persists after washing, get immediate medical attention.

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.

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.

Prepared: 28 December 2006

Revised: