ADVENTUS
REMEDIATION TECHNOLOGIES

Safety Data

1. PRODUCT IDENTIFICATION: EHC-O™
PRODUCT USE: Soil and water treatment.

MANUFACTURER:

Adventus Remediation Technologies Inc.
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EMERGENCY PHONE:

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TRANSPORTATION OF DANGEROUS GOOD CLASSIFICATION:
Oxidizing Solid, n.o.s. (Calcium Peroxide), Class 5.1, PG II, UN1479

WHMIS CLASSIFICATION:
Oxidizer

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Chemical Formula	CAS No.	Percentage
Calcium Peroxide	CaO_2	1305-79-9	45%-70%
Calcium Hydroxide	$Ca(OH)_2$	1305-62-0	10%-20%
Sodium, Calcium Aluminosilicate, Hydrated	$Ca_2(Na,K)_2Al_gSi_{28}O_{72}$ $24H_2O$	12172-10-3	20%-30%

3. PHYSICAL DATA

Appearance	White
Physical state	Solid
Odor threshold	None
Bulk Density	500~650g/L
Solubility in Water	Insoluble
pH	~11
Appearance	White
Decomposition Temperature	Self-accelerating decomposition with oxygen release starting from 275 degrees Celsius

4. HAZARDS IDENTIFICATION

Emergency overview
Oxidizing agent, contact with other material may cause fire. Under fire conditions this material may decompose and release oxygen that intensifies fire. This product also contains crystalline silica. Long tern exposure to hazardous levels of silica dusts can cause lung disease (silicosis). The World Health Organization had indicated that there is limited evidence that crystalline silica is carcinogenic to humans, but the NTP and OSHA have not classified this ingredient as carcinogenic.

Potential Health Effects:

- General ..... Irritating to mucous membrane and eyes.
- Inhalation ..... Irritating to respiratory tract. Long term inhalation of elevated levels may cause lung disease (silicosis).
- Eye contact ..... May cause irritation to the eyes; Risks of serious or permanent eye lesions.
- Skin contact ..... May cause skin irritation.
- Ingestion ..... Irritation of the mouth and throat with nausea and vomiting.

5. FIRST AID MEASURES

- Inhalation ..... Remove affected person to fresh air. Seek medical attention if effects persist.
- Eye contact ..... Flush eyes with running water for at least 15 minutes with eyelids held open. Seek specialist advice.
- Skin contact ..... Wash affected skin with soap and mild detergent and large amounts of water.
- Ingestion ..... If the person is conscious and not convulsing, give 2-4 cupfuls of water to dilute the chemical and seek medical attention immediately. Do not induce vomiting.

6. FIRE FIGHTING MEASURE

Flash Point

- Not applicable

Flammability

- Not applicable

Ignition Temperature

- Not applicable

Danger of Explosion

- Non-explosive

Extinguishing Media

- Water

Fire Hazards

- Oxidizer. Storage vessels involved in a fire may vent gas or rupture due to internal pressure. Damp material may decompose exothermically and ignite combustibles. Oxygen release due to exothermic decomposition may support combustion. May ignite other combustible materials. Avoid contact with incompatible materials such as heavy metals, reducing agents, acids, bases, combustible (wood, papers, cloths etc.) Thermal decomposition releases oxygen and heat. Pressure bursts may occur due to gas evolution. Pressurization if confined when heated or decomposing. Containers may burst violently.

Fire Fighting Measures

- Evacuate all non-essential personnel
- Wear protective clothing and self-contained breathing apparatus.
- Remain upwind of fire to avoid hazardous vapors and decomposition products.
- Use water spray to cool fire- exposed containers.

7. ACCIDENTAL RELEASE MEASURES

Spill Clean-up Procedure

- Oxidizer. Eliminate all sources of ignition. Evacuate unprotected personnel from equipment recommendations found in Section 9. Never exceed any occupational exposure limit.
- Shovel or sweep material into plastic bags or vented containers for disposal. Do not return spilled or contaminated material to inventory. Avoid making dust.
- Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.
- Do not touch or walk through spilled material. Keep away from combustibles (wood, paper, oils, etc.). Do not return product to container because of risk of contamination.

8. HANDLING AND STORAGE

Storage

- Oxidizer. Store in a cool, well-ventilated area away from all source of ignition and out of direct sunlight. Store in a dry location away from heat.
- Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers.
- Protect from moisture. Do not store near combustible materials. Keep containers well sealed. Ensure pressure relief and adequate ventilation.
- Store separately from organics and reducing materials. Avoid contamination that may lead to decomposition.

Handling

- Avoid contact with eyes, skin, and clothing. Use with adequate ventilation.
- Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area.
- Prevent contact with combustible or organic materials.
- Label containers and keep them tightly closed when not in use.
- Wash thoroughly after handling.

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

- General room ventilation is required. Local exhaust ventilation, process enclosures or other engineers controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure limits, monitoring should be performed regularly.

Respiratory Protection

- For many condition, no respiratory protection may be needed; however, in dusty or unknown atmospheres or when exposures exceed limit values, wear a NIOSH approved respirator.

Eye/Face Protection

- Wear chemical safety goggles and a full face shield while handling this product.

Skin Protection

- Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Chemical-resistant (Recommended materials: PVC, neoprene or rubber)

Other Protective Equipment

- Eye-wash station
- Safety shower
- Impervious clothing
- Rubber boots

General Hygiene Considerations

- Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical removed from skin as soon as practical, especially before eating or smoking.

10. STABILITY AND REACTIVITY

Stability

- Stable under normal conditions

Condition to Avoid

- Water
- Acids
- Bases
- Salts of heavy metals
- Reducing agents
- Organic materials
- Flammable substances

Hazardous Decomposition Products

- Oxygen which supports combustion

11. TOXICOLOGICAL INFORMATION

- LD50 Oral: Min.2000 mg/kg, rat
- LD50 Dermal: Min. 2000mg/kg, rat
- LD50 Inhalation: Min. 4580 mg/kg, rat

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

- Hazards for the environment is limited due to the product properties of no bioaccumulation, weak solubility and precipitation in aquatic environment.

Chemical Fate Information

- As indicated by chemical properties oxygen is released into the environment.

13. DISPOSAL CONSIDERATIONS

Waste Treatment

- Dispose of in an approved waste facility operated by an authorized contractor in compliance with local regulations.

Package Treatment

- The empty and clean containers are to be recycled or disposed of in conformity with local regulations.

14. TRANSPORT INFORMATION

- Proper Shipping Name: EHC-O
- Hazard Class: 5.1
- Labels: 5.1 (Oxidizer)
- Packing Group: II

15. REGULATORY INFORMATION

- SARA Section ..... Yes
- SARA (313) Chemicals ..... No
- EPA TSCA Inventory ..... Appears
- Canadian WHMIS Classification ..... C, D2B
- Canadian DSL ..... Appears
- EINECS Inventory ..... Appears

16. PREPARATION INFORMATION

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