

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Oxygen Release Compound Advanced (ORC Advanced®)

**Other means of identification** None.

### Recommended use of the chemical and restrictions on use

**Recommended use** Soil and Groundwater Remediation.

**Restrictions on use** None known.

### Details of manufacturer or importer

**Company name** REGENESIS

**Address**  
 1011 Calle Sombra  
 San Clemente, CA 92673  
 USA

**General information** 949-366-8000

**E-mail** CustomerService@regenesisc.com

**Emergency phone number** For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

**Australia** 0011-1-703-527-3887

**International** +1 703-741-5970

## 2. Hazard(s) identification

### Classification of the hazardous chemical

<b>Physical hazards</b>	Oxidising solids	Category 2
<b>Health hazards</b>	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation

### Label elements, including precautionary statements

**Hazard symbol(s)**



Flame over  
circle

Corrosion

Exclamation  
mark

**Signal word** Danger

**Hazard statement(s)** May intensify fire; oxidiser. Causes severe skin burns and eye damage. May cause respiratory irritation.

### Precautionary statement(s)

**Prevention** Keep away from heat. Keep/Store away from clothing/combustible materials. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician. In case of fire: Use appropriate media for extinction.

**Storage** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental information** None.

**Other hazards which do not result in classification** None known.

### 3. Composition/information on ingredients

#### Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Calcium peroxide	1305-79-9	≥ 75
Calcium hydroxide	1305-62-0	≤ 25
Dipotassium Phosphate	7758-11-4	< 5
Monopotassium Phosphate	7778-77-0	< 5

**Composition comments** All concentrations are in percent by weight unless otherwise indicated.

### 4. First-aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.
<b>Skin contact</b>	If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control centre immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.
<b>Ingestion</b>	Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Personal protection for first-aid responders** Take off all contaminated clothing immediately. Contact with combustible material may cause fire. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

**Symptoms caused by exposure** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**Medical attention and special treatment** Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

### 5. Fire-fighting measures

#### Extinguishing media

<b>Suitable extinguishing media</b>	Water spray, fog (flooding amounts). Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Combustion products may include: metal oxides.

**Special protective equipment and precautions for fire fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

**Hazchem code** 1Y

**General fire hazards** May intensify fire; oxidiser. Contact with combustible material may cause fire.

**Specific methods** Cool containers exposed to flames with water until well after the fire is out.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch or walk through spilled material.
------------------------------------	---

**For emergency responders** Keep unnecessary personnel away. Keep away from clothing and other combustible materials. Ensure adequate ventilation. Avoid inhalation of dust. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**Methods and materials for containment and cleaning up** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Ventilate the contaminated area. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimise dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Wear appropriate protective equipment and clothing during clean-up. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

**Precautions for safe handling** Minimise dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust ventilation at places where dust is formed. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not get this material in contact with eyes. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Avoid contact with water and moisture.

**Conditions for safe storage, including any incompatibilities** Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see section 10 of the SDS).

## 8. Exposure controls and personal protection

**Control parameters** Follow standard monitoring procedures.

### Occupational exposure limits

#### Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m3

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m3

#### UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Calcium hydroxide (CAS 1305-62-0)	STEL	4 mg/m3	Respirable fraction.
	TWA	5 mg/m3	
		1 mg/m3	Respirable fraction.

#### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Calcium hydroxide (CAS 1305-62-0)	TWA	1 mg/m3	Inhalable fraction.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station and safety shower.
<b>Individual protection measures, for example personal protective equipment (PPE)</b>	
<b>Eye/face protection</b>	Use dust-tight, unvented chemical safety goggles when there is potential for eye contact.
<b>Skin protection</b>	
<b>Hand protection</b>	Recommended gloves include rubber, neoprene, nitrile or viton. Frequent change is advisable.
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>Hygiene measures</b>	Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Colour</b>	White to pale yellow.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not available.
<b>pH</b>	12.5 (3% suspension/water)
<b>Melting point/freezing point</b>	Not applicable, material is a solid.
<b>Initial boiling point and boiling range</b>	Not applicable, material is a solid.
<b>Flash point</b>	Property has not been measured.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Oxidizer.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit – upper (%)</b>	Not available.
<b>Vapour pressure</b>	Not applicable, material is a solid.
<b>Vapour density</b>	Not applicable, material is a solid.
<b>Relative density</b>	Property has not been measured.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Slightly soluble
<b>Partition coefficient (n-octanol/water)</b>	Not applicable, product is a mixture. Not applicable, product is a mixture.
<b>Auto-ignition temperature</b>	Property has not been measured.
<b>Decomposition temperature</b>	275 °C (527 °F)
<b>Viscosity</b>	Not applicable, material is a solid.
<b>Other physical and chemical parameters</b>	
<b>Bulk density</b>	0.5 - 0.9 g/ml
<b>Density</b>	Property has not been measured.

<b>Explosive limit</b>	Non-explosive.
<b>Explosive properties</b>	Not explosive.
<b>Kinematic viscosity</b>	Not applicable, material is a solid.
<b>Oxidising properties</b>	May intensify fire; oxidiser.

## 10. Stability and reactivity

<b>Reactivity</b>	Greatly increases the burning rate of combustible materials.
<b>Chemical stability</b>	Decomposes on heating. Product may be unstable at temperatures above: 275°C/527°F.
<b>Possibility of hazardous reactions</b>	Reacts slowly with water.
<b>Conditions to avoid</b>	Moisture. Heat. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
<b>Incompatible materials</b>	Acids. Bases. Combustible material. Reducing Agents. Salts of heavy metals.
<b>Hazardous decomposition products</b>	Oxygen. Hydrogen peroxide (H2O2). Steam. Heat.

## 11. Toxicological information

### Information on possible routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system.
<b>Skin contact</b>	Causes severe skin burns.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns.

**Symptoms related to exposure** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

**Acute toxicity** Not known.

Components	Species	Test Results
Calcium hydroxide (CAS 1305-62-0)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2500 mg/kg, 24 Hours
<b>Inhalation</b>		
LC50	Rat	6.04 mg/l, 4 hours
<b>Oral</b>		
LD50	Rat	> 2000 mg/kg

**Skin corrosion/irritation** Causes severe skin burns and eye damage.

**Serious eye damage/irritation** Causes serious eye damage.

### Respiratory or skin sensitisation

<b>Respiratory sensitisation</b>	Not a respiratory sensitiser.
<b>Skin sensitisation</b>	This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not available.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life.

Components	Species	Test Results
Calcium hydroxide (CAS 1305-62-0)		
<b>Aquatic</b>		
Algae	EC50	184.57 mg/l, 72 hours
<b>Persistence and degradability</b>	Decomposes in the presence of water. The product contains inorganic compounds which are not biodegradable.	
<b>Bioaccumulative potential</b>	The product does not contain any substances expected to be bioaccumulating.	
<b>Partition coefficient n-octanol / water (log Kow)</b>	Not applicable, product is a mixture.	
<b>Mobility in soil</b>	This product has very low solubility in water and low mobility in the environment.	
<b>Other adverse effects</b>	None known.	

### 13. Disposal considerations

<b>Disposal methods</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### ADG

<b>UN number</b>	1457
<b>UN proper shipping name</b>	CALCIUM PEROXIDE
<b>Transport hazard class(es)</b>	
<b>Class</b>	5.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>Hazchem code</b>	1Y
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### RID

<b>UN number</b>	1457
<b>UN proper shipping name</b>	CALCIUM PEROXIDE
<b>Transport hazard class(es)</b>	
<b>Class</b>	5.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	5.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IATA

<b>UN number</b>	1457
<b>UN proper shipping name</b>	Calcium peroxide
<b>Transport hazard class(es)</b>	
<b>Class</b>	5.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	5L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	1457
<b>UN proper shipping name</b>	CALCIUM PEROXIDE
<b>Transport hazard class(es)</b>	
<b>Class</b>	5.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II

**Environmental hazards****Marine pollutant** No.**EmS** F-G, S-Q**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Transport in bulk according to** Not applicable.**Annex II of MARPOL 73/78 and  
the IBC Code****15. Regulatory information****Safety, health and environmental regulations****National regulations** This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals.**Australia Medicines & Poisons Appendix A**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix B**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix D**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix E**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix F**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix G**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix H**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix I**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix J**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix K**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 10**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 2**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 3**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 4**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 5**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 6**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 7**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 8**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 9**

Poisons schedule number not allocated.

**High Volume Industrial Chemicals (HVIC)**

Calcium hydroxide (CAS 1305-62-0)

10000 - 99999 TONNES See the regulation for additional information.

**Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10, as amended)**

Not listed.

**National Pollutant Inventory (NPI) substance reporting list**

Not listed.

**Prohibited Carcinogenic Substances**

Not regulated.

**Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)**

Not listed.

**Restricted Carcinogenic Substances**

Not regulated.

**Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)**

Not listed.

**International regulations****Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Kyoto Protocol**

Not applicable.

**Montreal Protocol**

Not applicable.

**Basel Convention**

Calcium peroxide (CAS 1305-79-9)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information****Issue date** 15-July-2022**Revision date** -

**Disclaimer** Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.