

**SAFETY DATA SHEET**  
**KLOZUR® CR**

**SDS # : 7775-27-1-2**  
**Revision date: 2021-02-17**  
**Format: NA**  
**Version 1.03**



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** KLOZUR® CR

**Synonyms** Sodium Peroxydisulfate; Disodium Peroxydisulfate; Peroxydisulfuric acid, disodium salt; Peroxydisulfuric acid, sodium salt; Calcium Peroxide.

**Alternate Commercial Name** KLOZUR® CR 2018

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

**Recommended Use:** In situ and ex situ chemical oxidation of contaminants and compounds of concern for environmental remediation applications

**Restrictions on Use** No uses to be advised against were identified.

**Manufacturer/Supplier**

PeroxyChem LLC  
2005 Market Street  
Suite 3200  
Philadelphia, PA 19103  
Phone: +1 267/ 422-2400 (General Information)  
E-Mail: sdsinfo-pxc@evonik.com

**Emergency telephone numbers**

For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)  
+1 303/ 389-1409 (Medical - U.S. - Call Collect)

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Oxidizing Solids	Category 2

### GHS Label elements, including precautionary statements

#### EMERGENCY OVERVIEW

#### **Danger**

#### **Hazard Statements**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H335 - May cause respiratory irritation  
 H318 - Causes serious eye damage  
 H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H302 - Harmful if swallowed  
 H272 - May intensify fire; oxidizer



#### **Precautionary Statements - Prevention**

P261 - Avoid breathing dust.  
 P271 - Use only outdoors or in a well-ventilated area  
 P285 - In case of inadequate ventilation wear respiratory protection  
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
 P270 - Do not eat, drink or smoke when using this product  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 P220 - Keep/Store away from clothing/combustible materials  
 P221 - Take any precaution to avoid mixing with combustibles

#### **Precautionary Statements - Response**

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/ physician  
 P310 - Immediately call a POISON CENTER or doctor  
 P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention  
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor  
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P370 + P378 - In case of fire: Use water spray for extinction

#### Precautionary Statements - Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

#### Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

#### Other Information

Risk of decomposition by heat or by contact with incompatible materials

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Sodium Persulfate	7775-27-1	40-60
Calcium Peroxide	1305-79-9	40-60
Calcium Hydroxide	1305-62-0	8 - 12

### 4. FIRST AID MEASURES

<b>General Advice</b>	Remove from exposure, lie down. Show this material safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician. In case of contact, immediately flush eyes with plenty of water. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth. Drink 1 or 2 glasses of water.
<b>Most important symptoms and effects, both acute and delayed</b>	Itching; Redness; Coughing and/ or wheezing.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Water. Cool containers with flooding quantities of water until well after fire is out.
<b>Unsuitable extinguishing media</b>	Do not use carbon dioxide or other gas filled fire extinguishers; they will have little effect on decomposing persulfate.
<b>Specific Hazards Arising from the Chemical</b>	Decomposes under fire conditions to release oxygen that intensifies the fire.

#### Explosion data

<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Keep off any unprotected persons. Avoid contact with the skin and the eyes. Avoid breathing dust. Wear personal protective equipment.
<b>Other</b>	Never add other substances or combustible waste to product residues. Containers of contaminated waste material should be monitored for signs of decomposition (fuming or smoking).
<b>Environmental Precautions</b>	Knock down dust with water spray. Recover the product in solid form, if possible. Local authorities should be advised if significant spillages cannot be contained.
<b>Methods for Containment</b>	Do not return product to the original storage container/tank due to risk of decomposition. Vacuum, shovel or pump waste into a drum and label contents for disposal. Store in closed container. Do not allow material to enter storm or sanitary sewer system.
<b>Methods for cleaning up</b>	Clean up spill area and treat as special waste.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Avoid dust formation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Avoid contact with skin and eyes. Avoid breathing dust. Remove and wash contaminated clothing before re-use. Reference to other sections.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Do not store near combustible materials. Avoid contamination of opened product. Keep away from food, drink and animal feedingstuffs. Avoid formation and deposition of dust.
<b>Incompatible products</b>	Acids, Bases, Halides, Oxidizing agents, Strong reducing agents, Combustible materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Sodium Persulfate 7775-27-1	TWA: 0.1 mg/m <sup>3</sup>	-	-	-
Calcium Hydroxide 1305-62-0	TWA: 5 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	Mexico: TWA 5 mg/m <sup>3</sup>
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Sodium Persulfate 7775-27-1	TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>
Calcium Hydroxide 1305-62-0	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering measures** Ensure adequate ventilation.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Eye protection recommended: Tightly fitting safety goggles.

**Skin and Body Protection** Wear suitable protective clothing. Protective shoes or boots.

**Hand Protection** Protective gloves: Neoprene gloves, Polyvinylchloride, Natural Rubber

**Respiratory Protection** Use only with adequate ventilation. Respirator must be worn if exposed to dust.

**Hygiene measures** Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after shifts. Keep work clothes separate, remove contaminated clothing - launder after open handling of product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Appearance</b>	Fine granules
<b>Physical State</b>	Solid
<b>Color</b>	Off-white
<b>Odor</b>	odorless
<b>Odor threshold</b>	Not applicable
<b>pH</b>	11.2 (1% solution)
<b>Melting point/freezing point</b>	Decomposes
<b>Boiling Point/Range</b>	Not applicable
<b>Flash point</b>	No information available
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	Not flammable
<b>Flammability Limit in Air</b>	Not applicable
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	No information available
<b>Specific gravity</b>	1.0 - 1.19 (5 to 30% slurries)
<b>Water solubility</b>	slightly soluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available (inorganic)
<b>Autoignition temperature</b>	Product is not self-ignitable.
<b>Decomposition temperature</b>	> 100 °C (assume)
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	oxidizer
<b><u>Other Information</u></b>	
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	830 51.8 kg/m <sup>3</sup> lb/cu ft (loose)

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Strong oxidizer. Oxidizer. Contact with other material may cause fire.
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	Contains a strong oxidizer and will react violently with flammable or reducing agents. Oxidizable material can be ignited by grinding and may become explosive.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat. (decomposes at temperatures >100 °C); Moisture.
<b>Incompatible materials</b>	Acids, Bases, Halides, Oxidizing agents, Strong reducing agents, Combustible materials.
<b>Hazardous Decomposition Products</b>	Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

Calcium peroxide and calcium hydroxide are not classified for acute toxicity.

<b>LD50 Oral</b>	No data available for the formulation. 895 mg/kg (rat) Sodium Persulfate
<b>LD50 Dermal</b>	No data available for the formulation. > 10,000 mg/kg (rabbit) Sodium Persulfate
<b>LC50 Inhalation</b>	No data available for the formulation. = > 5.1 mg/L (4-hr) (rat) Sodium Persulfate

**Serious eye damage/eye irritation** Severely irritating to the eyes.  
**Skin corrosion/irritation** Irritating to skin.

**Sensitization** Sensitizing to skin and respiratory system. Positive in a local lymph node assay. (based on components).

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Sodium Persulfate (7775-27-1)	895 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 5.1 mg/L ( Rat ) 4 h	
Calcium Hydroxide (1305-62-0)	7340 mg/kg ( Rat )			

### Information on toxicological effects

**Symptoms** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation corrosivity** Corrosive to eyes. Irritating to respiratory system and skin.  
Risk of serious damage to eyes.

**Carcinogenicity** Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).

**Mutagenicity** This product is not recognized as mutagenic by Research Agencies

<b>Reproductive toxicity</b>	This product is not recognized as reprotox by Research Agencies.
<b>STOT - single exposure</b> <b>STOT - repeated exposure</b>	May cause respiratory irritation. No information available.
<b>Target organ effects</b>	Eyes, Skin, Respiratory System.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Ecotoxicity effects

Sodium Persulfate (7775-27-1)				
Active Ingredient(s)	Duration	Species	Value	Units
Sodium Persulfate	96 h LC50	Rainbow trout	163	mg/L
Sodium Persulfate	48 h LC50	Daphnia magna	133	mg/L
Sodium Persulfate	96 h LC50	Grass shrimp	519	mg/L
Sodium Persulfate	72 h EC50	Algae Selenastrum capricornutum	116	mg/L

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia and other aquatic invertebrates
Calcium Hydroxide		96 h LC50: = 160 mg/L (Gambusia affinis) static		

<b>Persistence and degradability</b>	Biodegradability does not pertain to inorganic substances.
<b>Bioaccumulation</b>	Does not bioaccumulate.
<b>Mobility</b>	Dissociates into ions.
<b>Other Adverse Effects</b>	None known.

## 13. DISPOSAL CONSIDERATIONS

<b>Waste disposal methods</b>	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations. Containers of contaminated waste material should be monitored for signs of decomposition (fuming or smoking).
<b>US EPA Waste Number</b>	D001.
<b>Contaminated Packaging</b>	Empty remaining contents. Dispose of in accordance with local regulations.

## 14. TRANSPORT INFORMATION

### DOT

<b>UN/ID no</b>	UN 1479
<b>Proper Shipping Name</b>	OXIDIZING SOLID N.O.S.
<b>Hazard class</b>	5.1

**Packing Group** II  
**Reportable Quantity (RQ)** not applicable

**TDG**

**UN/ID no** UN 1479  
**Proper Shipping Name** OXIDIZING SOLID N.O.S.  
**Hazard class** 5.1  
**Packing Group** II

**ICAO/IATA**

**UN/ID no** UN 1479  
**Proper Shipping Name** OXIDIZING SOLID N.O.S.  
**Hazard class** 5.1  
**Packing Group** II

**IMDG/IMO**

**UN/ID no** UN 1479  
**Proper Shipping Name** OXIDIZING SOLID N.O.S.  
**Hazard class** 5.1  
**Packing Group** II

**ADR/RID**

**UN/ID no** UN 1479  
**Proper Shipping Name** OXIDIZING SOLID N.O.S.  
**Hazard class** 5.1  
**Packing Group** II

<b>15. REGULATORY INFORMATION</b>
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**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

This product has the following hazards that are reportable under The Emergency Planning and Community Right-to-Know rule (EPCRA Tier II):

- Oxidizer
- Serious eye damage/eye irritation
- Skin corrosion/irritation
- Respiratory/skin sensitization
- Specific Target Organ Toxicity (STOT) - Single Exposure

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA/EPCRA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**CWC (Chemical Weapons Convention) - Annex on Chemicals** Not applicable

**US State Regulations**



**U.S. State Right-to-Know Regulations**

This product contains the following substances regulated under state Right-to-Know laws:

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium Persulfate		X			
Calcium Peroxide		X			
Calcium Hydroxide	X	X	X		X

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**CANADA****Environmental Emergencies**

This product contains no substances listed under Canada's Environmental Emergency regulations.

**Canadian National Pollutant Release Inventory**

This product contains no substances reportable under Canada's National Pollutant Release Inventory regulations.

**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/EL INCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines )	AICS (Australia)	NZIoC (New Zealand)
Sodium Persulfate 7775-27-1	X	X	231-892-1	X	X	X	X	X	X
Trade secret	X	X	215-139-4	X	X	X	X	X	X
Calcium Hydroxide 1305-62-0	X	X	215-137-3	X	X	X	X	X	X

All ingredients are directly listed on the active TSCA Inventory

**Mexico**

Mexico - Grade

Moderate risk, Grade 2

<b>16. OTHER INFORMATION</b>
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<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Stability</b> 1	<b>Special Hazards</b> OX
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Physical hazard</b> 1	<b>Personal Protection</b> J

**NFPA/HMIS Ratings Legend**

Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Protection=J (Safety goggles, gloves, apron, combination dust and vapor respirator)

Revision date:

2021-02-17

Revision note

SDS sections updated: 1.

Issuing Date:

2021-02-09

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**Prepared By:**

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**End of Safety Data Sheet**