



SAFETY DATA SHEET

1. Identification

Product identifier	Re-Fresh® Dry Chlorinating Granular		
Other means of identification			
Product code	W8000008, W8000116, W8000207, W8000392		
Product registration number	EPA Registration Number: 748-217-42177		
Recommended use	Chlorine Disinfectant.		
Recommended restrictions	None known.		
Manufacturer/Importer/Supplier/Distributor information			
Manufacturer			
Company name	Westlake Corporation		
Address	2801 Post Oak, Suite 600 Houston, TX 77056 United States		
Telephone	+1-713-960-9111		
Website	www.westlake.com		
E-mail	sdsinfo@westlake.com		
Emergency phone number	CHEMTREC	1-800-424-9300	
	CHEMTREC International	+1 703-741-5970	
	Health & Safety Emergency	+1 304-455-6882	

2. Hazard(s) identification

Physical hazards	Oxidizing solids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	May intensify fire; oxidizer. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention	Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Avoid breathing vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	Rinse mouth. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 center/doctor. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.
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.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

1.5% of the mixture consists of component(s) of unknown acute dermal toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Calcium Hypochlorite		7778-54-3	65 - 73
Calcium Carbonate		471-34-1	1 - 5
Calcium Chlorate		10137-74-3	1 - 5
Calcium Hydroxide		1305-62-0	1 - 5

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Skin contact

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 center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact

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 center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

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. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed

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 warm. Keep victim under observation. Symptoms may be delayed.

General information

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. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Drench with large quantities of water only.

Unsuitable extinguishing media

Do not use dry chemicals or foams. Product supplies own oxygen, therefore attempts to smother fire with a wet blanket, carbon dioxide, dry chemical extinguisher or other means are not effective. Product has the potential to cause a violent reaction if dry chemical fire extinguishers are used.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed. Greatly increases the burning rate of combustible materials. Containers may explode when heated. Emits toxic fumes under fire conditions. Chlorine gas may be generated. Runoff may create fire or explosion hazard. Some will react explosively with hydrocarbons (fuels).

Special protective equipment and precautions for firefighters

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.

Specific methods

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

General fire hazards

May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental release measures

Personal precautions,
protective equipment and
emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. See Section 8 of the SDS for Personal Protective Equipment.

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. Minimize dust generation and accumulation. Wear appropriate protective equipment and clothing during clean-up. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. 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. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. Always add product to large quantities of water to fully dissolve product. Do not pour water into product, always add product to water. Do not use with stabilized chlorine or bromine tablet chemical feeders. Do not add this product to any dispensing device containing remnants of any other product or pool chemical.

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). Product is an NFPA Class 3 Oxidizer which can cause a severe increase in fire intensity.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium Hydroxide (CAS 1305-62-0)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium Carbonate (CAS 471-34-1)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium Hydroxide (CAS 1305-62-0)	TWA	50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

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

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium Carbonate (CAS 471-34-1)	TWA	5 mg/m3	Respirable.
Calcium Hydroxide (CAS 1305-62-0)	TWA	10 mg/m3	Total
		5 mg/m3	

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

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. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Frequent change is advisable.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Keep away from food and drink. 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

Physical state Solid.

Form Granular.

Color White

Odor Chlorine-like

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)** Not available.**Explosive limit - upper (%)** Not available.**Vapor pressure** Not available.**Vapor density** Not available.**Relative density** Not available.**Solubility(ies)****Solubility (water)** 100 %**Partition coefficient
(n-octanol/water)** Not available.**Auto-ignition temperature** Not available.**Decomposition temperature** 338 - 356 °F (170 - 180 °C)**Viscosity** Not available.**Other information****Bulk density** 1 - 1.07 g/cm³**Explosive properties** Not explosive.**Oxidizing properties** May intensify fire; oxidizer.**10. Stability and reactivity****Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.**Chemical stability** Product decomposes at approximately 170-180°C (338-356°F) releasing oxygen gas and some chlorine gas.**Possibility of hazardous reactions** Hazardous polymerization does not occur.**Conditions to avoid** Heat. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.**Incompatible materials** Highly reactive or incompatible with the following materials: moisture, combustible materials, organic materials, metals, acids, alkalis, oxidizing materials, reducing materials, ammonia, petroleum products, paint products, wood and paper, and pool chemicals. Acid or ammonia contamination will release toxic gases.**Hazardous decomposition products** Chlorine.**11. Toxicological information****Information on likely routes of exposure****Inhalation** May cause irritation to the respiratory system. Prolonged inhalation may be harmful.**Skin contact** Causes severe skin burns.**Eye contact** Causes serious eye damage.**Ingestion** Causes digestive tract burns. Harmful if swallowed.**Symptoms related to the physical, chemical and toxicological characteristics** 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. May cause respiratory irritation.**Information on toxicological effects****Acute toxicity** In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Harmful if swallowed.

Components	Species	Test Results
Calcium Carbonate (CAS 471-34-1)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 2000 mg/kg

Components	Species	Test Results
Calcium Hydroxide (CAS 1305-62-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2500 mg/kg, 24 Hours
Oral		
LD50	Rat	7340 mg/kg
Calcium Hypochlorite (CAS 7778-54-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	850 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Calcium Hypochlorite (CAS 7778-54-3)		3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
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.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Components	Species	Test Results
Calcium Carbonate (CAS 471-34-1)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) > 56000 mg/l, 96 hours
Calcium Hydroxide (CAS 1305-62-0)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Zambezi barbel (<i>Clarias gariepinus</i>) 33.8844 mg/l, 96 hours
Calcium Hypochlorite (CAS 7778-54-3)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Rotifer (<i>Philodina acuticornis</i>) 0.07 mg/l, 48 hours

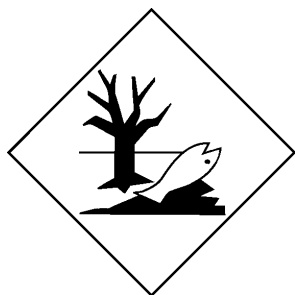
Components	Species	Test Results
Fish	LC50	Channel catfish (<i>Ictalurus punctatus</i>)
		>= 0.027 - <= 0.137 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulative potential		
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Dispose of this material and its container to hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel]
Waste from residues / unused products	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 (see: Disposal instructions). Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed. If this is not possible, material may be neutralized. Please contact Westlake Corporation Emergency Response team for guidance at +1 (304) 455-6882. Unneutralized material can cause environmental damage to any receiving water or can interfere with treatment plant operation.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN2880
UN proper shipping name	Calcium hypochlorite, hydrated or Calcium hypochlorite, hydrated mixtures, with not less than 5.5 % but not more than 16 % water (Calcium Hypochlorite RQ = 15 LBS), MARINE POLLUTANT
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	165, IB8, IP2, IP4, IP13, W9
Packaging exceptions	152
Packaging non bulk	212
Packaging bulk	240
IATA	
UN number	UN2880
UN proper shipping name	Calcium hypochlorite, hydrated with >= 5.5% but <= 16% water
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
ERG Code	5L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.
IMDG	
UN number	UN2880
UN proper shipping name	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE with not less than 5.5% but not more than 16% water, MARINE POLLUTANT

Transport hazard class(es)**Class** 5.1**Subsidiary risk** -**Packing group** II**Environmental hazards****Marine pollutant** Yes**EmS** F-H, 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****DOT****IATA; IMDG****Marine pollutant****General information**

IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information**US federal regulations**

This is a pesticide product registered with the Environmental Protection Agency and is regulated under FIFRA. Pesticide products are exempt from TSCA and not subject to inventory requirements. This chemical is a pesticide product registered with the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active" or exempt.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Calcium Hypochlorite (CAS 7778-54-3)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Oxidizer (liquid, solid, or gas)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.**US state regulations****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Calcium Chlorate (CAS 10137-74-3)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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)	No
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, including date of preparation or last revision

Issue date 03-09-2023
Revision date 05-08-2024
Version # 04

HMIS® ratings

Health: 3
Flammability: 0
Physical hazard: 2

NFPA ratings

Health: 3
Flammability: 0
Instability: 1
Special hazards: OX

NFPA ratings**Disclaimer**

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