

SAFETY DATA SHEET

1. Identification

Product identifier: Calcium Hypochlorite

Other means of identification

Product No.: 1378

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Physical hazards

Oxidizing solids Category 2

Health hazards

Acute toxicity (Oral) Category 3
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1

Environmental hazards

Acute hazards to the aquatic environment Category 1

Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: May intensify fire; oxidizer.
Toxic if swallowed.
Causes severe skin burns and eye damage.
Very toxic to aquatic life.

Precautionary statement

- Prevention:** Keep away from heat/open flames/hot surfaces. - No smoking. Keep/Store away from clothing/combustible materials. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid release to the environment.
- Response:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. 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. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
CALCIUM HYPOCHLORITE		7778-54-3	100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

- General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance. Ensure that emergency personnel are aware of the material involved, and take precautions to protect themselves.
- Ingestion:** Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person.
- Inhalation:** Move to fresh air. Get medical attention immediately. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary.
- Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General fire hazards: Oxidizing material. In case of fire and/or explosion do not breathe fumes. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Do not use water as an extinguisher. Foam. Water fog.

Unsuitable extinguishing media: Dry chemical. Straight Streams of Water

Specific hazards arising from the chemical: Strong oxidizer. May intensify fire; oxidizer.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Remove sources of ignition. Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Use only non-sparking tools.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:	Do not taste or swallow. Wash hands thoroughly after handling. Avoid contact with eyes. Keep away from food, drink and animal feeding stuffs. Keep away from combustible material. Do not eat, drink or smoke when using the product. Do not smoke, use open fire or other sources of ignition. Use personal protective equipment as required. See Section 8 of the MSDS for Personal Protective Equipment. Observe good industrial hygiene practices. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Take any precaution to avoid mixing with combustibles. Wear fire/flame resistant/retardant clothing. Avoid contact with skin.
Conditions for safe storage, including any incompatibilities:	Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Store away from incompatible materials. Eliminate sources of ignition. Store locked up.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None of the components have assigned exposure limits.

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) 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. An eye wash and safety shower must be available in the immediate work area.
Eye/face protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory protection:	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.
Hygiene measures:	Provide eyewash station and safety shower. 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. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Crystals or powder
Color:	White

Odor:	Strong chlorine odor
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	100 °C
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	6.9 AIR=1
Relative density:	2.35 (20 °C)
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	142.98 g/mol (Ca.2ClHO)

10. Stability and reactivity

Reactivity:	Reacts with water. Contact with acid liberates toxic gas.
Chemical stability:	Thermally unstable.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Moisture. Contact with incompatible materials.
Incompatible materials:	Reducing agents. Flammable/combustible material. Organic compounds. Water. Amines. Ammonia. Nitrogen Oxides
Hazardous decomposition products:	Oxygen. Chlorine. Chlorinated compounds. By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Toxic if swallowed.
Inhalation:	May be harmful if inhaled. May cause irritation to the respiratory system.
Skin contact:	Causes severe skin burns.
Eye contact:	Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 850 mg/kg

Dermal

Product: No data available.

Inhalation

Product: No data available.

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: Causes severe skin burns.

Serious eye damage/eye irritation

Product: Causes serious eye damage.

Respiratory or skin sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific target organ toxicity - single exposure

Product: No data available.

Specific target organ toxicity - repeated exposure

Product: No data available.

Aspiration hazard

Product: Not classified

Other effects:

None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

CALCIUM LC 50 (Northern pipefish (*Syngnathus fuscus*), 96 h): 0.27 mg/l Mortality
HYPOCHLORITE LC 50 (Golden shiner (*Notemigonus crysoleucas*), 96 h): 0.27 mg/l Mortality
LC 50 (Striped bass (*Morone saxatilis*), 96 h): 0.5 mg/l Mortality
LC 50 (Carp (*Cyprinus carpio*), 96 h): 0.399 - 0.983 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 0.641 - 1.101 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Specified substance(s):

CALCIUM EC 50 (Rotifer (*Philodina acuticornis*), 24 h): 0.08 mg/l Intoxication
HYPOCHLORITE EC 50 (Rotifer (*Philodina acuticornis*), 48 h): 0.07 mg/l Intoxication
EC 50 (Blue crab (*Callinectes sapidus*), 48 h): 0.97 mg/l Intoxication
EC 50 (Blue crab (*Callinectes sapidus*), 48 h): 1.4 mg/l Intoxication
EC 50 (Rotifer (*Philodina acuticornis*), 96 h): 0.07 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: Very toxic to aquatic life.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number:	UN 1748
UN proper shipping name:	Calcium hypochlorite mixtures dry
Transport hazard class(es)	
Class(es):	5.1
Label(s):	5.1
Packing group:	II
Marine Pollutant:	No

IMDG

UN number:	UN 1748
UN proper shipping name:	CALCIUM HYPOCHLORITE MIXTURE, DRY
Transport hazard class(es)	
Class(es):	5.1
Label(s):	5.1
EmS No.:	F-H, S-Q
Packing group:	II
Marine Pollutant:	No

IATA

UN number:	UN 1748
Proper Shipping Name:	Calcium hypochlorite mixture, dry
Transport hazard class(es):	
Class(es):	5.1
Label(s):	5.1
Marine Pollutant:	No
Packing group:	II

15. Regulatory information

US federal regulations

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

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

CALCIUM HYPOCHLORITE Reportable quantity: 10 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
CALCIUM HYPOCHLORITE	10 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
CALCIUM HYPOCHLORITE	500 lbs

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

CALCIUM HYPOCHLORITE Reportable quantity: 10 lbs.

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

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

CALCIUM HYPOCHLORITE Listed

US. Massachusetts RTK - Substance List

CALCIUM Listed
HYPOCHLORITE

US. Pennsylvania RTK - Hazardous Substances

CALCIUM HYPOCHLORITE Listed

US. Rhode Island RTK

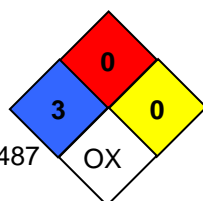
CALCIUM Listed
HYPOCHLORITE

Inventory Status:

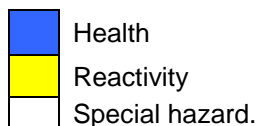
Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



 Flammability



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe
OX: Oxidizing agent

Issue date: 08-29-2014

Revision date: No data available.

Version #: 1.0

Further information: No data available.

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