COUNTY OF ROCKLAND
Department of General Services
Purchasing Division

Contract Award Notification

Title:	**Chemicals – Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants and Cleaning Solvents**
Contract Period:	December 20, 2021, through December 19, 2022 w/ 4 1-year options
Original Date of Issue:	December 20, 2021
Date of Revision:	06/28/2022
BID No:	**RFB-RC-2021-086**
Catalog:	**Wastewater**
Authorized Users:	County Agencies, Political Subdivisions

Address Inquiries To:

Name:	Michele Phillips
Title:	Purchaser I
Phone:	845-364-2984
Fax:	845-364-3809
E-mail:	phillipm@co.rockland.ny.us

Description
This contract is to provide various chemicals.

Please note, when applicable, ordering agencies are responsible to make sure SDS sheets are provided with each delivery.

NOTE: "Before you Print" - The SDS sheets for each chemical awarded under this solicitation is attached to this award notification and contains over 70 pages.

Contract #	Vendor Number	Contractor & Address	Telephone No.
BID 21-086-A	0000023044	GP Jager, Inc. PO Box 50 Boonton, NJ 07005 Contact: Janelle Sanz jsanz@jagerinc.com	973-750-1180 Fax: 973-750-1181
BID 21-086-B	0000006924	Slack Chemical Co., Inc. 465 South Clinton Street Carthage, NY 13619 Contact: Derek Davis slack@slackchem.com	315-493-0430 Fax: 315-493-3931
BID 21-086-C	0000012061	Clean Waters, Inc. 26808 County Route 3 Plessis, NY 13675 Contact: Stephen Wardell stevewardell@cleanwaters.us	315-482-3787 Fax: 802-331-1023
BID 21-086-D	0000026347	United Sales USA Corp. 185 30th Street Brooklyn, NY 11232 Contact: Pinny Ziegler bids@unitedsalesusa.com	718-709-5900 Ext. 232 Fax: 718-709-7705
BID 21-086-E	0000021984	Evoqua Water Technologies, LLC 2650 Tallevast Road Sarasota, FL 34243 Contact: Jennifer R. Miller municipalservices@evoqua.com	941-359-7930 Fax: 941-359-7985

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 2ND FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

VENDOR:_____

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LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	UNIT PRICE	MFG. PRODUCT CODE	VENDOR
1	**Chlorine, Granulated** Active Ingredients: Calcium Chloride 67% Inactive Ingredients: 33% 50 lb.pail HTH Daytech Arch Chemicals, Chloryte by Universal Chemical, Leslie's Power Powder by Olin, PPG Inductor, Sigura Water, Part Number 23211 or approved equal	88595300001	40 pails	50 lb. Pail	$118.50	Sigura Water Part Number 23211. **Note minimum 24 pails per order	**GP JAGER, INC.**
2	**Hydrogen Peroxide H_20_2 50% Solution** Bulk tank delivery FMC, Slack Chemical, Dupont #35925998, Arkena by Coyne, FMC 50% Solution or approved equal	88582770001	500 gallon bulk (Appr.5000 lbs.)	Gallon	$15.99	Slack Chemical - H0248	**SLACK CHEMICAL CO., INC.**
3	**Potassium Permanganate** Free-flowing, 55 lb. net weight metal containers as per the attached specifications Cairox by Carus Chemical, Universal Chemical or approved equal	88540540001	Appr. 5 cont.	55 lb. Metal Container			**NO AWARD**
4	**Sodium Bicarbonate, $NaHCO_3$** Powder form pkg., 50 lb. bags Natrium, American Soda, North American by Universal Chemicals, FMC # 475005, Church & Dwight Industrial Grade #75182050 or approved equal	88582770003	1bags	50 lb. Bags	$250.00	Natrium - S0132	**SLACK CHEMICAL CO., INC.**
5	**Sodium Hydroxide (Caustic) NaOH, 50% solution** Pkg: 55 gallon polyethylene drum as per the attached specifications Olin Oxychem, Olin Atochem, JCI by Jones Chemical, Georgia Gulf by Duso or approved equal	88584740002	1 drums	55 Gallon polyethylene drum	$549.45	Olin - C0442	**SLACK CHEMICAL CO., INC.**
6	**Sodium Hydroxide (Caustic),** **50% Solution Bulk Shipment** As per the attached specifications BCS, K A Steel, Olin Atochem, by Jones Chemical or approved equal	88584740001	500-1000 gallon per truck load	Gallon - bulk delivery	$5.98	Olin - C0442	**SLACK CHEMICAL CO., INC.**
7	**Sodium Hypochlorite, 15% Solution, NaOCl** Pkg: 55 gallon polyethylene drum as per the attached specifications UBA, Sunny Sol by Jones Chemical, United Chemical or approved equal	88582770004	1 drums	55 Gallon polyethylene drum	$274.45	Slack Chemical - B0386	**SLACK CHEMICAL CO., INC.**
8	**Polymer Solvent** Non-flammable, non-acid Pkg.: 55 gallon metal drums as per the attached specifications Poly Solv 01 Mfg. Clearwaters, Inc. or approved equal	88570000001	1 drum	55 gallon metal drums	$931.00	Poly-Solv 01	**CLEAN WATERS, INC.**
9	**Degreaser** Biodegradable, 5 gallon plastic pails as per the attached specifications Rochester Midland's Formula 260, Oilgon by Brown, NBC by Prestige or approved equal	88546100001	1100 pails	5 Gallon plastic pails			**NO AWARD**

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LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	UNIT PRICE	MFG. PRODUCT CODE	VENDOR
10	**Vapor Degreasing & Cleaning Solvent** Non-flammable replacement solvent Contains no chlorinated solvents or carcinogens in its inhibitor package, For use in Sewer District wet walls Ensolve, Bioesque Solutions BHDCD55G 87742-1, Red Lion Research P/N 7430, Red Lion Superet Clean by Chromate Industrial, Prestige Labs Show Case, Simoniz Citrus Plus h1140-3367 or approved equal	88546100002	1 drum	55 gallon drums			**NO AWARD**
11	**Odor Neutralizer** Biodegradable Pkg.: 55 gallon polyethylene drum as per the attached specifications Lemon Burst Odor Control Neutralizer as Mfg. by Meyer, American Cleaning Solutions 70180 or approved equal.	88576100001	40	55 Gallon polyethylene drum			**NO AWARD**
12	**Parts Washing Fluid** **Pkg.: 35 Gallon Drum** Safety solvent used to degrease and clean electrical motors. Removes grease and oil. Non-chlorinated and non-fluorinated. No residue left when dried. Odor: citrus. Contains no carcinogens, volatile compounds, or hazardous waste materials. **Must be capable of being disposed of as waste oil.** High Flash Point: 140ºF min. Dielectric Strength: 25,000 volts or greater Biogenic Regent by Rochester Midland, Big Jo by Prestige Labs, American Cleaning Solutions #162, Citrus Odor Washing Fluid or approved equal **SUCCESSFUL BIDDER MUST INCLUDE AIR GUN AT NO CHARGE**	19090350001	1 drum	35 Gallon Drums	$565.00	American Cleaning Solutions #162	**UNITED SALES USA CORP.**
13	**Parts Washing Fluid** **Pkg.: 35 Gallon Drum** Safety solvent used to degrease and clean electrical motors. Removes grease and oil. Non-chlorinated and non-fluorinated. No residue left when dried. Odor: citrus. Contains no carcinogens, volatile compounds, or hazardous waste materials. **Must be capable of being disposed of as waste oil.** High Flash Point: 140ºF min. Dielectric Strength: 25,000 volts or greater Biogenic Regent by Rochester Midland, Big Jo by Prestige Labs, American Cleaning Solutions # 162, Parts Washing Flui or approved equal **SUCCESSFUL BIDDER MUST INCLUDE AIR GUN AT NO CHARGE** **ITEMS 12 & 13 WILL BE AWARDED AS A GROUP**	19090350002	1 drum	55 Gallon Drums	$859.00	American Cleaning Solutions #162	**UNITED SALES USA CORP.**

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LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	UNIT PRICE	MFG. PRODUCT CODE	VENDOR
14	**FERROUS SULFATE (FeSO4)** SPECIFICATIONS Soluble Ferrous Iron 5.1% (0.5 lb./gal) MgSO4 <1.5% MnSO4 <0.2% Insoluble <0.5% Free Acid as H2SO4 <0.8% pH not less than 2 or greater than 7.5 Specific Gravity 1.17 (9.76 lb./gal) Freezing Point 28°F (-2°C) Active Ferrous Sulfate 12.5% Bulk shipments to be delivered into our 4500 gallon tank truck, Odorphos, Kemira, Slack Chemical or approved equal	88560400001	4500-5000 gallon per truck load	Gallon - bulk delivery	$1.27	ODOPHOS	**EVOQUA WATER TECHNOLOGIES**

COUNTY OF ROCKLAND - DGS-PURCHASING
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TITLE:	**RFB #:**
Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	**RFB-RC-2021-086**

SPECIFICATIONS

1. **SCOPE**

1.1. The cope of this bid is to provide specified chemicals, chlorine, wastewater chemicals, degreaser, lubricants, cleaning solvents and supplies for Rockland County Government entities.

2. **SITE VISIT**

2.1. Bidders are advised to visit the delivery sites specified and the storage tanks to become familiar with the conditions they may encounter when making deliveries. No allowance will be recognized for any claim made due to any difficulties encountered when attempting a delivery because the supplier with whom a contract was executed, failed to ascertain for himself the conditions and circumstances to be encountered during delivery.

2.2. To arrange a site visit to delivery locations for the Rockland County Sewer District #1, 4 Route 340, Orangeburg, NY 10962, contact Richard Hagan at **(845) 365-6111**.

3. **QUANTITIES**

3.1. The quantities listed are estimated annual usage.

3.1.1. NOTE: The Town of Orangetown orders chemicals off of this contract, however, usage is unknown at this time.

3.1.1.1. Upon award and request, contractor must be required to report all usage against the new contract.

4. **REQUIREMENTS**

4.1. Bidders must submit SDS sheets and specifications with their bid for each product offered.

4.1.1. SDS sheets submitted must be clearly marked with the corresponding Item # in accordance with the proposal pages/Bid Table.

4.2. Bidder must supply Mfg., Product Code and Packaging information on all items bid (see proposal pages).

4.3. Drums and/or cylinders to remain vendor's property and must be furnished at no charge on an even exchange basis. **No deposit or demurrage**. The County of Rockland will be responsible for drums while in use on County property.

4.4. All quantities shown are estimates based on previous usage. The successful bidder will be required to furnish quantities even if different than those used whether it is more or less during the term of the contract.

4.5. All contractors and/or bidders must be required to wear hard hats & safety protective equipment while doing work for and/or being on the Rockland County Sewer Dist. # 1 premises. This directive is effective immediately & must be enforced. No work will be authorized or performed without proper safety protection equipment adhering to the most recent OSHA standards & it is the vendor's responsibility to supply the necessary items of equipment.

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4.6. All town and municipality orders must be billed to the requesting town or municipality.

5. **DELIVERIES**

5.1. Unless otherwise specified, all deliveries to Rockland County Sewer District Facilities must be conducted between normal business hours of 7:00 AM – 2:30 PM Monday – Friday. Deliveries outside these times may be denied at the district's discretion, at no additional cost to the County of Rockland.

5.2. All deliveries must be verified via telephone at least 24 hours prior to arrival at the County of Rockland Facilities. The contact telephone number is (845) 365-6111.

5.3. Failure to deliver on time may result in default of bid. The County of Rockland is then permitted to purchase products on the open market and to charge back differences to defaulting vendor.

6. **SITE DAMAGE**

6.1. Any damage to buildings, equipment, utilities, finished surfaces, or the property of the County of Rockland resulting from the performance of this contract must be repaired by the Contractor at the Contractor's expense at no cost to the County of Rockland. Completed repairs must be accepted and approved by the authorized representative of the County of Rockland.

7. **APPROVED EQUAL OR EQUIVALENT ITEMS**

7.1. Bidder must submit specifications, cut sheets, brochure data and SDS sheets with his bid. Bidders must also include company name, address, contact, and contact telephone number of three locations where the product is being utilized (see Certificate of Experience).

8. **SAMPLES FOR EQUIVALENT ITEMS**

8.1. Samples –Bidder must submit samples to the Purchasing Department for evaluation within five business days of notification from the Rockland County Purchasing Department, unless otherwise specified.

8.1.1. All sample materials must be clearly labeled with the following information:

Bid Number
Bid item Number
Bid Item Name
Product Name
Vendor Name

8.1.2. These items will be used for evaluation purposes and will not be returned unless otherwise agreed upon prior to sample submission. The evaluation of these products will be made by the user department based on trials, product review, or experience.

9. **ITEM EXCLUSIONS**

9.1. Items 2, 3, 4 may no longer be purchased by the Rockland County Sewer District # 1. However, they remain on the bid in case they will be needed by other municipalities and towns.

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10. CONTRACT PRICE ADJUSTMENTS UPON RENEWAL

10.1. The proposed pricing must remain firm through the first contract period with no price adjustments allowed. If the County exercises any of the option years of the contract, Contractors may submit a request for adjustment on the yearly anniversary date of the contract. Any request for price adjustment(s) must be submitted thirty (30) days in advance in writing to the Director of Purchasing.

10.1.1. Any price adjustment will be limited to the percent increase in the PPI Index-Chemical Mfg. PCU325 for the preceding twelve (12) months. Producer Price Index (PPI) is published by the U.S. Department of labor. The decision to extend or not to extend the contract rests solely with the County of Rockland.

11. AWARD

11.1. Bid will be awarded on a line by line basis to the lowest responsive responsible bidder meeting the stated requirements.

11.2. If at any time RCSD#1 determines that an awarded product is no performing as specified and intended, the County reserves the right to rescind the award of that product and proceed to award the product to the next lowest responsive responsible bidder meeting the stated requirements..

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DETAILED SPECIFICATIONS FOR POTASSIUM PERMANGANATE (ITEM # 3)

- **REQUIREMENTS**
  - **Quality** - The material is to be potassium permanganate, free-flowing, as manufactured by Carus Chemical Co. or approved equal. The supplier must certify that potassium permanganate quality and free-flowing characteristics must be in accordance with and determined by AWWA Standard B-603-88 respectively. No more than 3% of the permanganate must pass through a number 200 mesh sieve.
  - The permanganate must also meet the following characteristics: $KMn0_4$ minimum concentration - 95% by weight, active minimum concentration - 95% by weight. Color: Dark Purple. Form: Granular, crystalline material, free-flowing.
  - **Containers** - Potassium permanganate must be packaged in 55 lb. net weight metal pail containers with handle lid type: full open head with lever lock lid. The containers are to be shrink wrapped on wooden pallets, 24 containers per pallet. All containers must be carefully examined. Any which show evidence of leakage, damage, or corrosion must be rejected, and the supplier must be required to remove the container from the district's premises.
  - **Delivery** - Potassium permanganate must be delivered to the Rockland County Sewer District. No. 1, # 4 Route 340, Orangeburg, NY 10962. Time of delivery at the Sewer District must be from Monday to Friday, 7:00 AM to 2:30 PM. Late arrival may cause non-acceptance of the delivery on the day specified. Orders must be placed by the Sewer District at least three days in advance of the required delivery. The supplier must be responsible for the removal from Sewer District property and disposal of all empty potassium permanganate containers at intervals acceptable to both parties (i.e., after each delivery of potassium permanganate). The supplier must remove all wooden pallets (on which the potassium permanganate is delivered) from the Sewer District property.
  - **Bid Price** - The unit price must include delivery cost to the Sewer District as well as the cost of the potassium permanganate and the containers. There must be no additional cost for delivery on wooden pallets. The contractor is to include in the bid price the cost to remove all empty containers and wooden pallets from the Sewer District's premises. It is the supplier's responsibility to dispose of the containers.
  - If the potassium permanganate does not meet the requirements of these specifications, the supplier may be required to remove the product from the Sewer District's premises. Any product that doesn't meet specifications will be rejected. Award will have to be rescinded or the supplier will have to exchange the unacceptable product. Should the supplier continually fail to meet the requirements of these specifications, the Sewer District must have the right to procure potassium permanganate on the open market and the supplier, under contract, will be required to subsidize the total differences between his contract price and the price obtained by the Sewer District on the open market for suitable potassium permanganate. Prior to taking such action, the Director of Purchasing must notify the supplier by certified mail.

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DETAILED SPECIFICATIONS FOR SODIUM HYDROXIDE (ITEMS # 5 AND # 6)

- **SODIUM HYDROXIDE**

- NaOH 50% by weight
- Molecular Weight 40

  - **SPECIFICATIONS**
    - MaOH 50% by weight
    - Sodium Oxide Equiv. 38-39.5%
    - Sodium Chloride 1.3% Max.
    - Melting Point 55° F
    - Weight/Gallon 12.8 lbs.
    - Solubility Complete
    - Specific Gravity 1.53 gm/cc

  - **DESCRIPTION**
    - The chemical is used in wastewater and sewage treatment to adjust the pH of municipal water. It should not self-polymerize.

  - **CONTAINERS**
    - The chemical should be delivered in tight 55 gallon polyethylene drums.
    - The bulk sodium hydroxide to be delivered to the Rockland County Sewer District # 1, Orangeburg, NY plant into our tank truck.
    - The delivery time is from 7:00 AM to 2:30 PM, Monday through Friday.

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DETAILED SPECIFICATIONS FOR SODIUM HYPOCHLORITE (ITEM # 7)

- **SODIUM HYPOCHLORITE (NaOCl 15%)**
  - **SPECIFICATIONS**
  - Solubility in Water — Complete
    - pH — 12.5 - 13.7
    - Specific Gravity (12.5) — 1.2
    - Active Sodium Hypochlorite — 12.5%
- **CONTAINERS**
  - Liquid hypochlorite solution should be delivered in 55 gallon polyethylene drums.
  - Delivery time is from 7:00 AM - 2:30 PM, Monday through Friday.

DETAILED SPECIFICATIONS FOR POLYMER SOLVENT (ITEM #8)

- **POLYMER SOLVENT**
- **POLY SOLV 01 CONCENTRATE MF. CLEARWATERS, INC. SPECIFICATIONS**
  - Is concentrated polymer residual cleaner used to clean polymer spills, belt press belts, GBT belts, screw presses, internal centrifuge bowls, and more.
  - Contains both detergent and surfactant packages that are activated when mixed with water.
  - Contains an indicator dye, which helps the user determine what areas have been covered with the chemical.
- **CONTAINERS**
  - 55 gal. metal drums.
- **NOTES**
  - Delivery time is from 7:00 AM - 2:30 PM, Monday through Friday.

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DETAILED SPECIFICATIONS FOR BIOGRADEABLE DEGREASER (ITEM #9)

- **DEGREASER**
  - Biodegradable, clear liquid/non-objectionable odor.
  - Heritage Labs - SW1000 or approved equal.
- **SPECIFICATIONS**
  - Specific Gravity (H_20-1) 1.036
  - Boiling Point 213°F
  - Solubility in Water Complete
  - % Volatile by Volume 0
  - Evaporation Rate (water) Less than 1%
- **CONTAINERS**
  - 5 gallon plastic pails
  - Delivery time is from 7:00 AM - 2:30 PM, Monday through Friday.

DETAILED SPECIFICATIONS FOR ODOR NEUTRALIZER (ITEM #11)

- **ODOR NEUTRALIZER**
  - A complex mixture of fragrance materials used to mask odors. Contains no biocidal activity; environmentally safe; biodegradable; liquid form. Mfg. Meyer – Lemon Burst Odor Control Neutralizer or approved equal.

Description- Lemon Burst Odor Control Neutralizer
A strong odor control neutralizer combined with a fresh lemon fragrance. This formulation is specifically designed to neutralize & deodorize foul odors caused by smoke, mildew, sewage, and municipal sludge generated at waste treatment plants.

- Highly concentrated deodorizer and when used straight or highly diluted will suppress odors. This product is a concentrated liquid with a strong lemon fragrance.
- Product can be dispensed through a trigger drum pump or jet spray pump.
- Can be used without dilution or by diluting the product up to 1 oz (Lemon Burst) per one-gallon water.
- Offered chemical must have been tested and approved in waste treatment plants for use in areas including but not limited to the following:
- ---------- Rag press application
- ---------- Drains- odor control

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- ---------- Loading Dock- sludge transfer stations
- ---------- Grit removal areas
- ---------- Pump stations

Effective Dilution Factor per 55 gallon (super concentrate)

(super concentrate) ..... Tank cleaning/Replaces Granular chlorine/Atomize

5-gallon water + 1-gallon Lemon Burst ..... Normal usage for strong Deodorizer Truck Bay

10-gallon water + 1-gallon Lemon Burst ..... Clean/deodorize floor areas Centrifuge room

50-gallon water + 1-gallon Lemon Burst ..... Mild Clean/Deodorize interior floors

- **SPECIFICATIONS**
  - Specific Gravity 0.95
  - Solubility in Water Water Dispersible
  - Color Yellow
  - Scent Lemmon
  - Flash Point 105°F
- **CONTAINERS**
  - 55-gallon polyethylene drums.
  - Delivery time is from 7:00 AM - 2:30 PM, Monday through Friday.
- **NOTES**
  - SAMPLES AND MSDS MUST BE SUBMITTED WITHIN 3 BUSINESS DAYS FROM DATE OF REQUEST.

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DETAILED SPECIFICATIONS FOR FERROUS SULFATE (ITEM #14)

- **FERROUS SULFATE ($FeSO_4$)**

    - **SPECIFICATIONS**
    - Soluble Ferrous Iron 5.1% (0.5 lb/gal)
    - MgSO4 <1.5%
    - MnSO4 <0.2%
    - Insolubles <0.5%
    - Free Acid as H2SO4 <0.8%
    - pH not less than 2 or greater than 7.5
    - Specific Gravity 1.17 (9.76 lb/gal)
    - Freezing Point 28°F (-2°C)
    - Active Ferrous Sulfate 12.5%

- **PROCESS DESCRIPTION**

The material must remove hydrogen sulfide from the liquid stream via chemical precipitation. The material must provide a source of ferrous iron, which will cause the sulfide to precipitate as ferrous sulfide, thus preventing it from being liberated into the gaseous phase. By treating hydrogen sulfide in the wastewater stream, the process must prevent the release of hydrogen sulfide into the air, reducing odors and corrosion. This material must be capable of removing the hydrogen sulfide in solution to a level of less than 0.5 ppm.

- **ODOPHOS(r) PRODUCT INFORMATION**

    The material supplied must be an aqueous solution of ferrous sulfate containing a minimum of 0.5 pounds of ferrous iron per gallon. The material must be capable of reducing the dissolved hydrogen sulfide concentration in wastewater to less than 0.5 mg/L. The material must be free of any objectionable odor-producing compounds. The pH of the material must not be less than 2.0 or greater than 7.5. The specific gravity of the material must be greater than 1.17. The material must conform to the AWWA B402-815 specification other than as specified. The material must contain no more than 0.8% free acid The material must be free of excess settle able solids that would necessitate frequent cleanings of the Owner's storage tanks.

- **CONTAINERS**

    - Bulk shipments to be delivered into our 6000 gallon tank truck at the Sloatsburg Pump Station site in Sloatsburg, New York.

    - Delivery time is from 8:00 AM - 2:00 PM, Monday through Friday.

Sigura

SAFETY DATA SHEET

according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

DryTec Calcium Hypochlorite Granular

Version 2.2 | Revision Date 2020.07.27 | Print Date 2021.02.25

SECTION 1. IDENTIFICATION

Product name : DryTec Calcium Hypochlorite Granular
Maximum Use Level (MUL) for potable water is 15 mg/L

Manufacturer or supplier's details

Company : Innovative Water Care, LLC
1400 Bluegrass Lakes Parkway
Alpharetta, GA
30004

Telephone : 1-800-511-6737 (Outside the USA: 1-423-780-2347)
E-mail address : sds@sigurawater.com
Emergency telephone number : 1-800-654-6911 (Outside the USA: 1-423-780-2970)

Recommended use of the chemical and restrictions on use

Recommended use : Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids : Category 2

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

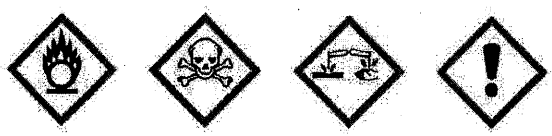
Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :



Signal word : Danger

Sigura

DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

Hazard statements : H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep/ Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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/ doctor.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray to extinguish.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
Calcium hypochlorite	7778-54-3	65 - 75

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

Calcium chlorate	10137-74-3	0 - 5
Calcium chloride	10043-52-4	0 - 5
Calcium dihydroxide	1305-62-0	0 - 4

SECTION 4. FIRST AID MEASURES

General advice	:	Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
If inhaled	:	IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
In case of skin contact	:	IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
In case of eye contact	:	IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If swallowed	:	IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water only. Do not use dry extinguishers containing ammonium compounds.
Specific hazards during firefighting	:	Strong oxidizing agent
Further information	:	Use water to cool containers exposed to fire. See Section 6 for protective equipment for fire fighting.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

repirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.
Hazardous concentrations in air may be found in local spill area and immediately downwind.
Remove all sources of ignition.
Stop source of spill as soon as possible and notify appropriate personnel.
Contact 1-800-654-6911 immediately. DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labeled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labeled. Call for disposal procedures. For disposal considerations see section 13.

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal. Do not flush into surface water or sanitary sewer system. Avoid dust formation.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid inhalation of dust and fumes.
Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Remove contaminated clothing and wash before reuse.

Conditions for safe storage : Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including, e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

Materials to avoid : Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic

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DryTec Calcium Hypochlorite Granular Use Level (MUL) for potable water is 15 mg/L **Maximum**

materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc. A chemical reaction with such substances can cause a fire of great intensity.

Further information on storage stability : Average daily temperature of 35° C / 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Calcium dihydroxide	1305-62-0	TWA	5 mg/m3	ACGIH
		REL	5 mg/m3	NIOSH/GUIDE
		PEL (Total dust.)	15 mg/m3	OSHA_TRANS
		PEL (Respirable fraction.)	5 mg/m3	OSHA_TRANS
		TWA	5 mg/m3	Z1A

Engineering measures : Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.
A NIOSH approved full-face air purifying respirator equipped with combination chlorine/P100 cartridges. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Hand protection

Remarks : Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye protection : Use chemical goggles.

Skin and body protection : Neoprene, Nitrile, Natural rubber (This includes: gloves, boots, apron, protective suit)

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

Protective measures	:	An eye wash and safety shower should be provided in the immediate work area.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	free flowing, granular
Colour	:	off-white
Odour	:	Chlorine-like
Odour Threshold	:	no data available
pH	:	10.5 - 11.5 (77 °F / 25 °C) Concentration: 1 %
Melting point/freezing point	:	Not applicable
Boiling point/boiling range	:	no data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire.
Flammability (liquids)	:	no data available
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	Not applicable
Relative vapour density	:	no data available
Relative density	:	Not applicable
Density	:	0.8 g/cm3
Water solubility	:	ca. 180 g/l (77 °F / 25 °C)
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Oxidizing properties	:	Oxidizing

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	NFPA Oxidizer Class: Meets the criteria of an NFPA Class 3 Oxidizer

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DryTec Calcium Hypochlorite Granular Maximum Use Level (MUL) for potable water is 15 mg/L

Conditions to avoid	:	Do not store next to heat source, in direct sunlight, or elevated storage temperature. Do not store where the daily average temperature exceeds 95 °F. Prevent ingress of humidity and moisture into container or package. Always close the lid.
Incompatible materials	:	This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive ,flammable or combustible materials. Do not allow product to contact any foreign matter, including other water treatment products. Contamination or improper use may cause a fire of great intensity, explosion or the release of toxic gases. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter.
Hazardous decomposition products	:	Chlorine

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, skin, eyes, ingestion

Acute toxicity

Acute oral toxicity	:	LD50 (Rat): approximately 800 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.04 mg/l Exposure time: 1 h Remarks: (Nose Only) LC50 (Rat): > 0.51 mg/l Exposure time: 4 h Remarks: (Nose Only)
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation

Remarks: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION.
WET MATERIAL CAUSES SKIN BURNS.

Serious eye damage/eye irritation

Result: Corrosive to eyes

Respiratory or skin sensitisation

Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

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DryTec Calcium Hypochlorite Granular Maximum Use Level (MUL) for potable water is 15 mg/L

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA#s list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

Other adverse effects

Ozone-Depletion Potential	:	Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	Highly toxic to fish and other aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. As a hazardous solid waste, it must be disposed of in accord-

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

ance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	: 2880
Proper shipping name	: Calcium hypochlorite, hydrated mixtures
Transport hazard class	: 5.1
Packing group	: II
Labels	: 5.1
Emergency Response Guidebook Number	: 140
Environmental hazards	: yes

TDG

UN number	: 2880
Proper shipping name	: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
Transport hazard class	: 5.1
Packing group	: II
Labels	: 5.1
Environmental hazards	: yes

IATA

UN number	: 2880
Proper shipping name	: Calcium hypochlorite, hydrated mixture
Transport hazard class	: 5.1
Packing group	: II
Labels	: 5.1
Environmental hazards	: yes

IMDG

UN number	: 2880
Proper shipping name	: Calcium hypochlorite, hydrated mixture
Transport hazard class	: 5.1
Packing group	: II
Labels	: 5.1
EmS Number 1	: F-H
EmS Number 2	: S-Q
Environmental hazards	: Marine pollutant: yes

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

ADR

UN number	:	2880
Proper shipping name	:	CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
Transport hazard class	:	5.1
Packing group	:	II
Classification Code	:	O2
Hazard Identification Number	:	50
Labels	:	5.1
Environmental hazards	:	yes

RID

UN number	:	2880
Proper shipping name	:	CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
Transport hazard class	:	5.1
Packing group	:	II
Classification Code	:	O2
Hazard Identification Number	:	50
Labels	:	5.1
Environmental hazards	:	yes

Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals.

EPA Registration number	:	1258-427
Signal word	:	DANGER!
Hazard statements	:	Highly Corrosive. Causes skin and eye damage. May be fatal if swallowed. Irritating to nose and throat. This pesticide is toxic to fish and aquatic organisms.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ

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DryTec Calcium Hypochlorite Granular Maximum Use Level (MUL) for potable water is 15 mg/L

			(lbs)
Calcium hypochlorite	7778-54-3	10	13

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Components	CAS-No.	Component RQ (lbs)
Calcium hypochlorite	7778-54-3	10

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Components	CAS-No.	Concentration
Calcium hypochlorite	7778-54-3	65 - 75 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

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DryTec Calcium Hypochlorite Granular Maximum Use Level (MUL) for potable water is 15 mg/L

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Calcium chlorate	10137-74-3
Calcium carbonate	471-34-1
Calcium dihydroxide	1305-62-0

Pennsylvania Right To Know

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Sodium chloride	7647-14-5
Calcium chloride	10043-52-4
Calcium chlorate	10137-74-3
Calcium carbonate	471-34-1
Calcium dihydroxide	1305-62-0

New Jersey Right To Know

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Sodium chloride	7647-14-5
Calcium chloride	10043-52-4
Calcium chlorate	10137-74-3
Calcium carbonate	471-34-1
Calcium dihydroxide	1305-62-0

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian lists

NPRI

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

The components of this product are reported in the following inventories:

TSCA : This is an EPA registered pesticide.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : US. ACGIH Threshold Limit Values
NIOSH/GUIDE : US. NIOSH: Pocket Guide to Chemical Hazards, as amended
OSHA_TRANS : US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR

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DryTec Calcium Hypochlorite Granular **Maximum**
Use Level (MUL) for potable water is 15 mg/L

1910.1000)
Z1A : US. OSHA Table Z-1-A (29 CFR 1910.1000)

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

1
Revision Date : 2020.07.27

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format : yyyy/mm/dd
US / EN

DryTec®

Granular Calcium Hypochlorite

One of the best industrial strength chlorinators on the market today, **DryTec® Granular Calcium Hypochlorite** provides effective sanitizing and disinfecting solutions in a host of applications. **DryTec®** can be used in a variety of industrial sectors including water treatment facilities, pulp & paper, meat processing and more.

THE BENEFITS INCLUDE

- Contains 68% available chlorine to achieve outstanding sanitizing results
- Cost effective
- Effective alternative to gas and liquid hypochlorite
- Protects equipment from corrosion
- Convenient and easy to use
- Supplied in 1, 5, 25, 50 and 100lb. plastic pails
- Requires no storage tanks or secondary containment
- Fast dissolving action provides effective sanitation and outstanding solution consistency
- Cyanuric acid FREE

THE GRANULAR "ALL IN ONE" CHLORINATOR

THAT DELIVERS UNSURPASSED CONSISTENT RESULTS

drytec®

DryTec® Granular Calcium Hypochlorite

With applications in a host of industries **DryTec® Granular Calcium Hypochlorite** has unbeatable utility. Versatile and effective, **DryTec®** provides unsurpassed industrial sanitizing and disinfecting solutions.

APPLICATIONS

- **Industrial Water Treatment**
  - Controls slime growth in cooling towers, ponds and reservoirs
  - Maximizes efficiency
  - Reduces unpleasant odors
- **Potable Water**
  - Hypochlorination for disinfecting small community water supplies
  - Low initial investment
  - Maintains economical operating costs
- **Private Water Supplies**
  - Sanitizes wells, natural springs, cisterns and storage tanks by destroying harmful microbes
  - Purifies by destroying harmful organic matter
- **Industrial Cyanide Waste**
  - Oxidizes toxic cyanides, producing harmless cyanates
- **Pulp & Paper**
  - Effective bleaching agent for all common paper dyes
- **Restaurant**
  - Sanitizes food contact surfaces
  - Sanitizes walls, floors and other environmental surfaces
- **Food Safety**
  - Sanitization of porous and nonporous food contact surfaces
  - Sanitization of porous and nonporous non food contact surfaces
  - Disinfection of nonporous non food contact surfaces
  - Post Harvest Fruit & Vegetable Wash

TYPICAL PROPERTIES

	Minimum	Maximum
• Available Chlorine (% by weight)	65.00	-
• Water (% by weight)	5.5	8.5
• Iron (% by weight)*	-	0.05
• Oxides, heavy metals & Al* (% by weight)	-	0.5
• Scale Inhibitor* (target % by weight)	0.4	0.6

REGULATORY

- EPA No. 1258-427
- NSF Standard 60, Drinking Water Additives
- Meets AWWA Standard B300-04

PACKAGING

DryTec® Granular Chlorinator is available in 1, 5, 25, 50 & 100lb. plastic pails

CALL 1-800-478-5727
to find out more about
DRYTEC® GRANULAR
or visit our website at
www.archwaterworks.com/industrial

Versatile. Effective. Reliable.

ARCH
Arch Chemicals, Inc.
1955 Lake Park Drive, Suite 100
Smyrna, GA 30080
1-800-478-5727

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name:	**Hydrogen Peroxide 50%**
Synonyms:	Hydrogen peroxide in aqueous solution, Slack Ox 50, H_2O_2
CAS Number:	7722-84-1
Product Use:	Bleaching agent, chemical intermediate, metal treatment, water treatment
Manufacturer/Supplier:	Slack Chemical Co., Inc 465 South Clinton St. Carthage, NY 13619 800.479.0430

Transportation Emergency Number: CHEMTREC: 800.424.9300

2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards	Oxidizing liquids	Category 2
Health Hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Eye damage/irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3
Environmental Hazards	Hazardous to aquatic environment, acute	Category 2
	Hazardous to aquatic environment, chronic	Category 4

GHS Label Elements

Signal Word: **DANGER!**

Hazard Statements

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H401	Toxic to aquatic life.
H413	May cause long lasting harmful effects to aquatic life.

SAFETY DATA SHEET

Precautionary Statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301/312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301/330/331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303/361/353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305/351/338	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/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P370/378	In case of fire: Use water spray to extinguish.
P403/233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Weight %
Hydrogen Peroxide	7722-84-1	50

4. FIRST AID MEASURES

Inhalation: If breathed in, move person into fresh air. Consult a physician after significant exposure. Obtain medical attention.

Eye: Rinse with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. Obtain medical attention.

Skin: Rinse immediately with plenty of water. Immediately remove all contaminated clothing and shoes and soak them in water to prevent risk of fire, do not allow to dry out until washed.

Ingestion: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention immediately. Do NOT induce vomiting. May cause chemical burns in mouth and throat.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water.

SAFETY DATA SHEET

Fire Fighting Procedures: In the event of fire, wear self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Unusual Fire and Explosion Hazards: Hydrogen peroxide is a strong oxidant and exothermally decomposes to water and large amounts of oxygen. Risk of explosion if exposed to fire. Do not allow run-off from fire fighting to enter drains or water courses.

Combustion Products: Oxygen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Ensure adequate ventilation.

Environmental Precautions: Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and Materials for Containment and Cleaning Up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal. Never return spills in original containers for re-use. Avoid contact with combustible material (paper, wool, oil).

7. HANDLING AND STORAGE

Precautions for Safe Handling: Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. When handling, use only inert lubricants and packings for pumps, valves and other equipment. Do not confine in unvented vessels. Never return unused material to storage receptacle. Protect from contamination. Keep away from heat and sources of ignition. Avoid shock and friction. Avoid contact with skin, eyes and clothing. Keep away from combustible material.

Conditions for Safe Storage, Including Any Incompatibilities: Keep in a cool, well-ventilated place. Store in a fireproof area. Store in a receptacle equipped with a vent. Store separately from all other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Component	OSHA PEL-TWA	ACGIH TLV-TWA
Hydrogen Peroxide (CAS 7722-84-1)	1 ppm	1 ppm

Engineering Controls: Effective exhaust ventilation system. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment (PPE)

Eye/Face Protection: Tightly fitting safety goggles

Skin Protection: PVC or rubber gloves. Protective suit. Do not wear leather shoes. Do not wear protective clothes containing cotton.

Respiratory Protection: In the case of vapor or aerosol formation use a respirator with an approved filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear, colorless
Odor	Pungent

SAFETY DATA SHEET

Odor threshold	Not available
pH	< 2
Melting/freezing point	-56°C (-69°F)
Boiling point	120°C (248°F)
Flash point	Not available
Evaporation rate	1
Flammability	Not available
Upper/lower flammability limits	Not available
Vapor pressure	13 hPa (25°C)
Vapor density	Similar to water
Relative density	1.20
Solubility	100% (water)
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity: Reacts with copper, aluminum, zinc and their alloys.

Chemical Stability: Stable under recommended storage conditions. Contains stabilizing agent(s).

Possibility of Hazardous Reactions: Contamination from various metals or organic materials may cause rapid decomposition of the hydrogen peroxide, resulting in oxygen gas release and buildup if not properly vented.

Conditions to Avoid: Avoid elevated temperatures. Direct heating, dirt, chemical contamination, sunlight, UV or ionizing radiation.

Incompatible Materials: Organic solvents, powdered metal salts, metals, reducing agents, organic materials, dirt. Incompatible with bases. Decomposes by reaction with alkaline solutions.

Hazardous Decomposition Products: Hydrogen peroxide is a strong oxidant and exothermally decomposes to water and large amounts of oxygen.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

- Ingestion: Large exposure may be fatal. May be harmful if swallowed.
- Inhalation: Inhalation of aerosols may cause irritation to mucous membranes. Inhalation of vapors in high concentration may cause shortness of breath (lung edema).
- Skin Contact: Causes mild skin irritation.
- Eye Contact: Causes serious eye irritation.

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Not available.

Acute Toxicity Values:

Component	Route	Species	Value
Hydrogen Peroxide (CAS 7722-81-1)	Oral LD_{50}	Rat	602 mg/kg

Skin Corrosion/Irritation: Causes irritation or burns.

Serious Eye Damage/Irritation: Causes serious eye irritation or damage.

SAFETY DATA SHEET

Respiratory or Skin Sensitization: Not available.

Germ Cell Mutagenicity: Not available.

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive Toxicity: Not available.

Specific Target Organ Toxicity (STOT) – Single Exposure: Not available.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: Not available.

Aspiration Hazard: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Component	Species	Value	
Hydrogen Peroxide (CAS 7722-84-1)	Fathead minnow *(Pimephales promelas)*	16.4 mg/L	(LC_{50}-96 hr)
	Water flea *(Daphnia pulex)*	2.4 mg/L	(LC_{50}-48 hr)

Persistence/Degradability: The product is miscible in water and readily biodegradable in both water and soil.

Bioaccumulation: Accumulation is not expected.

Soil Mobility: The product is miscible in water and readily biodegradable in both water and soil.

Other Adverse Affects: Transport to air is not expected.

13. DISPOSAL CONSIDERATIONS

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container may need to be disposed of as hazardous waste. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and/or international regulations. 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

U.S. Department of Transportation (DOT)

UN/NA Number:	UN 2014
Proper Shipping Name:	Hydrogen peroxide, aqueous solution
Hazard Class:	5.1 (8)
Packing Group:	PG II
Marine Pollutant:	No
Labels Required:	Oxidizer, Corrosive
Reportable Quantity:	N/A

15. REGULATORY INFORMATION

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SAFETY DATA SHEET

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants:
Hydrogen Peroxide (CAS 7722-84-1) – No

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention 40 CFR 68.130:
Hydrogen Peroxide (CAS 7722-84-1) – No

Clean Water Act (CWA) 40 CFR 401.15:
Hydrogen Peroxide (CAS 7722-84-1) – No

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 40 CFR 302.4:
Hydrogen Peroxide (CAS 7722-84-1) – No

SARA Section 302 Extremely Hazardous Substance 40 CFR 355:
Hydrogen Peroxide (CAS 7722-84-1) – Yes (> 52%)

SARA Section 311/312 40 CFR 370:
Hydrogen Peroxide (CAS 7722-84-1) – Yes

SARA Section 313 40 CFR 372:
Hydrogen Peroxide (CAS 7722-84-1) – No

Toxic Substances Control Act (TSCA):
Hydrogen Peroxide (CAS 7722-84-1) – Yes

Canadian Environmental Protection Act, Domestic Substance List (CEPA-DSL):
Hydrogen Peroxide (CAS 7722-84-1) – Yes

California Proposition 65:
Hydrogen Peroxide (CAS 7722-84-1) – No

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):
Not applicable

16. OTHER INFORMATION

HMIS RATINGS		NFPA RATINGS	
Health	3	Health	3
Flammability	0	Flammability	0
Reactivity	2	Reactivity	2

Disclaimer

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S0132_Sodium Bicarbonate, Industrial
S0615_Sodium Bicarbonate, USP 6
S0617_Sodium Bicarbonate, USP 2
S7346.S7401_Sodium Bicarbonate, Reclaimed

Natrium Products Inc.

SODIUM BICARBONATE

Safety Data Sheet

1. IDENTIFICATION

Product name: Sodium bicarbonate

Synonyms: Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

Manufacturer:

Natrium Products, Inc.
58 Pendleton Street
Cortland, NY 13045
USA

Telephone numbers:

General inquiries: (607) 753-9829
Emergencies (US and Canada):
CHEMTREC (Customer Number 724993)
(800) 424-9300 or 703-527-3887 (collect)

Recommended uses:

Food additive; pharmaceutical ingredient; water treatment; raw material for paper and chemical manufacturing; animal feed additive; pH control.

2. HAZARD IDENTIFICATION

There are no appreciable health or environmental effects associated with this material.

Hazard classification: Not classified

Label elements: No applicable labeling

Other potential health effects:

Eyes: Direct contact may cause irritation due to abrasion.

Skin: Not a skin irritant.

Inhalation: No known effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: Sodium hydrogen carbonate

Chemical formula: $NaHCO_3$

Synonyms: Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

CAS Number: 144-55-8

Concentration (% by Weight): 100%

4. FIRST AID MEASURES

Eye contact: Irrigate with flowing water immediately and continuously for 15 minutes. Consult a physician if necessary.

Skin contact: Wash off in flowing water or shower. If necessary, consult physician.

Ingestion: Do not induce vomiting. Seek medical attention immediately if overdose is taken.

Note to physician: Large doses, particularly in patients with renal insufficiency, have produced systemic alkalosis and/or expansion in the extra-cellular fluid volume with edema.

Inhalation: Remove to fresh air. Seek medical attention if discomfort persists.

5. FIRE FIGHTING MEASURES

Product is non-combustible. Thermal decomposition products are carbon dioxide and sodium carbonate (soda ash). Carbon dioxide is an asphyxiant, and soda ash is an irritant.

Protective equipment: Self- contained breathing apparatus is necessary if large quantities are involved.

Extinguishing media: Use extinguishing material that is appropriate for fire in the surrounding area.

Natrium Products Inc.

SODIUM BICARBONATE

Safety Data Sheet

6. ACCIDENTAL RELEASE MEASURES

Sweep up into clean, dry containers for salvage or disposal. Wash away uncontaminated residue with water.

7. HANDLING AND STORAGE

Avoid contact with eyes and skin. Keep separated from acids. Store in a cool, dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: Not established.

Engineering controls: Provide general and/or local exhaust ventilation to control airborne dust.

Personal Protection:

Eyes & Face: Safety glasses for dusty conditions.

Respiratory: NIOSH approved dust mask.

Miscellaneous: Full cover clothing, general purpose gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystalline powder or granules.

Flammability: None.

Upper/lower flammability/explosive limits: Not applicable.

Odor: None.

Odor threshold: Not applicable.

Vapor pressure: Not applicable.

Vapor density: Not applicable.

pH of 0.1 M solution (0.84% w/v): 8.3 @ 25°C

Density: 2.2 g/cm^3.

Melting point: Not applicable (thermal decomposition occurs on heating).

Solubility in water: 86 g/L @ 20°C.

Boiling point: Not applicable.

Flash point: Not applicable.

Evaporation rate: Not applicable.

Partition coefficient, n-octanol/water: No data available.

Auto-ignition temperature: Not applicable.

Decomposition temperature: Starts to decompose when heated above 50°C (122°F).

Viscosity: Not applicable.

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions or polymerization will not occur under normal conditions.

Chemical stability: Stable under recommended handling and storage conditions. (See Section 7.)

Conditions to avoid: Temperatures above 50°C (122°F).

Incompatible materials: Reacts with acids, releasing carbon dioxide.

Hazardous decomposition products: Carbon dioxide and sodium carbonate (soda ash).

Natrium Products Inc.

SODIUM BICARBONATE

Safety Data Sheet

11. TOXICOLOGICAL INFORMATION

Acute Oral: LD_{50} (rat) > 4000 mg/kg. **Acute Inhalation:** LC_{50} (rat) > 4.74 mg/L.

Eyes: Minimally irritating (rabbit, EPA TSCA 40 CFR 798.4500); Irritating (rabbit, Draize test, dose of 220 mg).

Skin: Slightly irritating (rabbit).

Carcinogenicity: Not listed as a carcinogen or potential carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the U.S. Occupational Safety and Health Administration (OSHA).

12. ECOLOGICAL INFORMATION

Aquatic toxicity:

Fish: LC50 = 7700 mg/L (Rainbow trout, 96-hr. exposure).
Fish: LC50 = 7100 mg/L (Bluegill sunfish, 96-hr. exposure).
Invertebrates: EC50 > 1000 mg/L *(Daphnia magna,* 48-hr. exposure).

Persistence/Bioaccumulation potential: Not expected to persist or bioaccumulate in the environment.

Biodegradation: Not applicable.

Mobility: High potential for movement from soil to groundwater is expected based on aqueous solubility.

13. DISPOSAL CONSIDERATIONS

Not a hazardous material. Dispose in a landfill in accordance with pertinent federal, state and local regulations. Empty containers may be incinerated or discarded as ordinary waste.

14. TRANSPORT INFORMATION

Not regulated by the U.S. Department of Transportation.

15. REGULATORY INFORMATION

CERCLA (40 CFR 302.4): Not a hazardous substance.

RCRA (40 CFR 261): Not a hazardous waste.

TSCA (40 CFR 710): Listed.

OSHA (29 CFR 1910.1200): Not hazardous.

SARA. Title III Sections 302 (40 CFR 355), 313 (40 CFR 372): Not a hazardous or toxic chemical.

European Inventory (EINECS): 205-633-8.

Japanese Inventory (MITI): 1-164.

U.S. Food and Drug Administration: Generally recognized as safe (GRAS) direct food additive (21 CFR 184.1736).

16. OTHER INFORMATION

Maximum use level for drinking water corrosion and scale control: 100mg/L per NSF/ANSI 60 – 2014a.

Issue Date: 5/1/2015 **Supersedes:** 1/9/2012

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name:	**Caustic 50%**
Synonyms:	Sodium hydroxide, caustic soda, caustic alkali, liquid caustic, lye, sodium hydrate, NaOH
CAS Number:	1310-73-2
Product Use:	Neutralizing agent, industrial cleaning, pulping & bleaching, soap & detergent manufacturing.
Manufacturer/Supplier:	Slack Chemical Co., Inc 465 South Clinton St. Carthage, NY 13619 800.479.0430

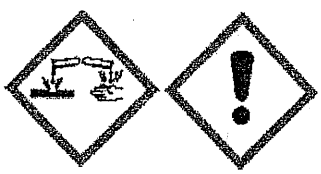
Transportation Emergency Number: CHEMTREC: 800.424.9300

2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards	Corrosive to metals	Category 1
Health Hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Eye damage/irritation	Category 1
Environmental Hazards	Hazardous to aquatic environment, acute	Category 3

GHS Label Elements



Signal Word: DANGER!

Hazard Statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H402	Harmful to aquatic life.

Precautionary Statements

P234	Keep only in original packaging.
P260	Do not breathe dusts or mists.

SAFETY DATA SHEET

P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301/330/331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301/312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303/361/353	IF ON SKIN: Take of immediately all contaminated clothing. Rinse skin with water.
P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305/351/338	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.
P321	Specific treatment (see first aid section).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material-damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Weight %
Sodium Hydroxide	1310-73-2	50

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Eye: 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.

Skin: Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15-20 minutes. Get medical attention immediately. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting. Immediately rinse mouth and drink plenty of water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Do not use mouth-to-mouth method if victim ingested the substance.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, foam, dry chemical powder or carbon dioxide. Use extinguishing agent suitable for type of surrounding fire. DO NOT use solid water stream as it may scatter and spread fire. DO NOT use halogenated extinguishing agents.

Fire Fighting Procedures: Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs,

SAFETY DATA SHEET

arms, and waist, should be worn. No skin surface should be exposed. 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.

Unusual Fire and Explosion Hazards: May decompose upon heating to produce corrosive and/or toxic fumes. Contact with metal may release flammable hydrogen gas.

Combustion Products: The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

Methods and Materials for Containment and Cleaning Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water. Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Use caution when combining with water; DO NOT add water to caustic; ALWAYS add caustic to water while stirring to minimize heat generation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices.

Conditions for Safe Storage, Including Any Incompatibilities: Keep container tightly closed. Store in a cool, dry and well-ventilated place. Store in corrosive resistant container. Store away from incompatible materials. Compatible storage materials may include, but not be limited to, the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP, or Derakane vinyl ester resin. Do not allow material to freeze.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Component	OSHA PEL-TWA	ACGIH TLV-TWA
Sodium Hydroxide (CAS 1310-73-2)	2 mg/m^3	2 mg/m^3 (Ceiling)

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.

Personal Protective Equipment (PPE)

Eye/Face Protection: Wear chemical goggles and face shield.
Skin Protection: Wear appropriate chemical resistant gloves and clothing.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits or to an acceptable level, an approved respirator must be worn. Respirator type: Chemical respirator with organic vapor cartridge and full face-piece.

SAFETY DATA SHEET

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear-sl. turbid, colorless
Odor	Odorless
Odor threshold	Not available.
pH	14
Melting/freezing point	12°C (54°F)
Boiling point	140°C (284°F)
Flash point	Not applicable
Evaporation rate	Not available
Flammability	Not applicable
Upper/lower flammability limits	Not applicable
Vapor pressure	24 mmHg (25°C)
Vapor density	Not available
Relative density	1.53
Solubility	100% (water)
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Viscosity	78 cP (20°C)

10. STABILITY AND REACTIVITY

Reactivity: Contact with metal may release flammable hydrogen gas.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

Conditions to Avoid: Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Corrosive to aluminum, tin, zinc, copper and most alloys in which they are present including brass and bronze. Corrosive to steels at elevated temperatures above 40°C (104°F).

Incompatible Materials: Oxidizing agents, acids, phosphorus, aluminum, zinc and tin. Initiates or catalyzes violent polymerization of acetaldehyde, acrolein or acrylonitrile.

Hazardous Decomposition Products: Contact with metals (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Ingestion: Causes digestive tract burns. Harmful if swallowed.
Inhalation: May cause irritation to the respiratory system.
Skin Contact: Causes severe skin burns.
Eye Contact: Causes severe eye burns and serious eye damage.

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result.

Acute Toxicity Values:

Component	Route	Species	Value
Sodium Hydroxide (CAS 1310-73-2)	Dermal LD_{50}	Rabbit	> 2 g/kg
	Oral LD_{50}	Rat	300 – 500 mg/kg

SAFETY DATA SHEET

Skin Corrosion/Irritation: Causes severe skin burns.

Serious Eye Damage/Irritation: Causes severe eye burns and serious eye damage.

Respiratory or Skin Sensitization: Not available.

Germ Cell Mutagenicity: Not available.

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive Toxicity: Not available.

Specific Target Organ Toxicity (STOT) – Single Exposure: Not available.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: Not available.

Aspiration Hazard: Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Component	Species	Value	
Sodium Hydroxide (CAS 1310-73-2)	Brook trout *(Salvelinus fontinalis)*	25 mg/L	(LC_{50}-NR)
	Water flea *(Ceriodaphnia dubia)*	40.4 mg/L	(EC_{50}-48 hr)

Persistence/Degradability: Expected to degrade rapidly in air.

Bioaccumulation: The product is not expected to bioaccumulate.

Soil Mobility: Not available.

Other Adverse Affects: No other adverse environmental effects are expected from this component.

13. DISPOSAL CONSIDERATIONS

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container may need to be disposed of as hazardous waste. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and/or international regulations. 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

U.S. Department of Transportation (DOT)

UN/NA Number:	UN 1824
Proper Shipping Name:	Sodium hydroxide solution
Hazard Class:	8
Packing Group:	PG II
Marine Pollutant:	No
Labels Required:	Corrosive
Reportable Quantity:	1,000 lb

SAFETY DATA SHEET

15. REGULATORY INFORMATION

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants:
Sodium Hydroxide (CAS 1310-73-2) – No

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention 40 CFR 68.130:
Sodium Hydroxide (CAS 1310-73-2) – No

Clean Water Act (CWA) 40 CFR 401.15:
Sodium Hydroxide (CAS 1310-73-2) – No

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 40 CFR 302.4:
Sodium Hydroxide (CAS 1310-73-2) – Yes

SARA Section 302 Extremely Hazardous Substance 40 CFR 355:
Sodium Hydroxide (CAS 1310-73-2) – No

SARA Section 311/312 40 CFR 370:
Sodium Hydroxide (CAS 1310-73-2) – Yes

SARA Section 313 40 CFR 372:
Sodium Hydroxide (CAS 1310-73-2) – No

Toxic Substances Control Act (TSCA):
Sodium Hydroxide (CAS 1310-73-2) – Yes

Canadian Environmental Protection Act, Domestic Substance List (CEPA-DSL):
Sodium Hydroxide (CAS 1310-73-2) – Yes

California Proposition 65:
Sodium Hydroxide (CAS 1310-73-2) – No

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):
Not applicable

16. OTHER INFORMATION

HMIS RATINGS		NFPA RATINGS	
Health	3	Health	3
Flammability	0	Flammability	0
Reactivity	1	Reactivity	1

Disclaimer

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SAFETY DATA SHEET

1. IDENTIFICATION

Product Name:	**Sodium Hypochlorite**
Synonyms:	Bleach 15%, Bleach 1% Alkali, Bleach 1.5% Alkali, Hypochlorite solution, Pool shock liquid, SUPERCHLOR, SUPERCHLOR 15, SUPERCHLOR SHOCK, NaOCl
CAS Number:	7681-52-9
Product Use:	Sanitation/disinfection in potable water, swimming pool chlorination, wastewater treatment, institutional and industrial cleaners, paper and textile manufacture.
Manufacturer/Supplier:	Slack Chemical Co., Inc 465 South Clinton St. Carthage, NY 13619 800.479.0430

Transportation Emergency Number: CHEMTREC: 800.424.9300

2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards	Corrosive to metals	Category 1
Health Hazards	Skin corrosion/irritation	Category 1
	Eye damage/irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3
Environmental Hazards	Hazardous to aquatic environment, acute	Category 1
	Hazardous to aquatic environment, chronic	Category 2

GHS Label Elements

Signal Word: DANGER!

Hazard Statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

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Precautionary Statements

P234	Keep only in original packaging.
P260	Do not breathe dusts or mists.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301/330/331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303/361/353	IF ON SKIN: Take of immediately all contaminated clothing. Rinse skin with water.
P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305/351/338	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.
P312	Call a POISON CENTER or doctor if you fell unwell.
P321	Specific treatment (see first aid section).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material-damage.
P391	Collect spillage.
P403/233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Weight %
Sodium Hypochlorite	7681-52-9	10 - 20
Sodium Hydroxide	1310-73-2	< 2

4. FIRST AID MEASURES

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center, doctor, or going for treatment.

Eye: Hold eyelid(s) open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes and then continue rinsing. Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing and rinse skin immediately with plenty of water for 15 – 20 minutes. Call a poison control center or doctor for treatment advice. Discard contaminated clothing or launder before reuse.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have affected person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, foam, dry chemical powder or carbon dioxide.

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Fire Fighting Procedures: In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards noted.

Combustion Products: During fire, gases hazardous to health may be formed. Contact with combustibles may initiate or promote combustion. Acid and heat accelerate decomposition. Decomposition products may include chlorine gas.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Absorb spillage to prevent material damage. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions: Do not discharge into drains, water courses or onto the ground. Environmental manager must be informed of all major releases.

Methods and Materials for Containment and Cleaning Up: Large Spills: Stop the flow of material, if can be done without risk. Dike the spilled material, where possible. Absorb in vermiculite, dry sand or earth and place into suitable containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Use with adequate ventilation. Observe good industrial hygiene practices. Do not apply heat or direct sunlight. Temperature and product concentration affect product quality and decomposition rates.

Conditions for Safe Storage, Including Any Incompatibilities: Keep container tightly closed. Store in a cool and well-ventilated place. Store in a corrosive resistant container. Consult container manufacturer for additional guidance. Store away from and do not mix with incompatible materials such as acids, oxidizers, organics, reducing agents, and all metals except titanium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Component	OSHA PEL-TWA	ACGIH TLV-TWA
Sodium Hydroxide (CAS 1310-73-2)	2 mg/m^3	2 mg/m^3 (Ceiling)

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.

Personal Protective Equipment (PPE)

Eye/Face Protection: Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection: Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing. Reports indicate that sodium hypochlorite can react with various fabrics usually increasing with concentration. Reactions vary significantly depending on strength of chemical, material, fabric treatment and color of dyes. Poly blend fabrics have a weaker response than natural fibers. Contact the Personal Protective Equipment manufacturer for specific information about their products.

SAFETY DATA SHEET

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits or to an acceptable level, an approved respirator must be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear, yellow-green
Odor	Chlorine
Odor threshold	0.9 mg/m^3
pH	> 12
Melting/freezing point	-24°C (-11°F)
Boiling point	104°C (219°F)
Flash point	Not applicable
Evaporation rate	Not available
Flammability	Not applicable
Upper/lower flammability limits	Not applicable
Vapor pressure	12 mmHg (20°C)
Vapor density	Not available
Relative density	1.18 – 1.24
Solubility	100% (water)
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability: Material is stable under normal conditions. Stability decreases with increased concentration, low pH as well as exposure to heat, sunlight, and contamination with heavy metals such as, but not limited to; nickel, copper, cobalt and iron.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

Conditions to Avoid: Contact with incompatible materials. Avoid ultraviolet (UV) light sources and excessive heat. Reacts violently with strong acids. Acid contact will produce chlorine gas. Amine contact will produce chloramines.

Incompatible Materials: Strong oxidizing agents, acids, metals, organic compounds and ammonia.

Hazardous Decomposition Products: Hypochlorous acid, chlorine, and hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend upon temperature, pH and time, are sodium chlorate and oxygen.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.
Inhalation: Vapors and spray mist may irritate throat and respiratory system and cause coughing.
Skin Contact: Causes skin burns.
Eye Contact: Causes eye burns.

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

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Acute Toxicity Values:

Component	Route	Species	Value
Sodium Hypochlorite (CAS 7681-52-9)	Dermal LD_{50}	Rabbit	> 2 g/kg
	Oral LD_{50}	Rat	3 – 5 g/kg
Sodium Hydroxide (CAS 1310-73-2)	Dermal LD_{50}	Rabbit	> 2 g/kg
	Oral LD_{50}	Rat	300 – 500 mg/kg

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (STOT) – Single Exposure: May cause respiratory irritation.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: Not classified.

Aspiration Hazard: Not classified, however droplets of the product may be aspirated into the lungs through ingestion or vomiting and may cause a serious chemical pneumonia.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Component	Species	Value	
Sodium Hypochlorite (CAS 7681-52-9)	Fathead minnow *(Pimephales promelas)*	5.9 mg/L	(LC_{50}-96 hr)
	Water flea *(Ceriodaphnia dubia)*	0.05 mg/L	(LC_{50}-24 hr)
Sodium Hydroxide (CAS 1310-73-2)	Brook trout *(Salvelinus fontinalis)*	25 mg/L	(LC_{50}-NR)
	Water flea *(Ceriodaphnia dubia)*	40.4 mg/L	(EC_{50}-48 hr)

Persistence/Degradability: Not available.

Bioaccumulation: Not available.

Soil Mobility: Not available.

Other Adverse Affects: No other adverse environmental effects are expected from this component.

13. DISPOSAL CONSIDERATIONS

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container may need to be disposed of as hazardous waste. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and/or international regulations. Empty containers should be taken to an approved waste handling site

SAFETY DATA SHEET

for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

UN/NA Number:	UN 1791
Proper Shipping Name:	Hypochlorite solutions
Hazard Class:	8
Packing Group:	PG III
Marine Pollutant:	No
Labels Required:	Corrosive
Reportable Quantity:	100 lb
Exemption(s):	49 CFR 173.154 – Quantities not over 1.3 gallons

15. REGULATORY INFORMATION

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants:
- Sodium Hypochlorite (CAS 7681-52-9) – No
- Sodium Hydroxide (CAS 1310-73-2) – No

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention 40 CFR 68.130:
- Sodium Hypochlorite (CAS 7681-52-9) – No
- Sodium Hydroxide (CAS 1310-73-2) – No

Clean Water Act (CWA) 40 CFR 401.15:
- Sodium Hypochlorite (CAS 7681-52-9) – No
- Sodium Hydroxide (CAS 1310-73-2) – No

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 40 CFR 302.4:
- Sodium Hypochlorite (CAS 7681-52-9) – Yes
- Sodium Hydroxide (CAS 1310-73-2) – Yes

SARA Section 302 Extremely Hazardous Substance 40 CFR 355:
- Sodium Hypochlorite (CAS 7681-52-9) – No
- Sodium Hydroxide (CAS 1310-73-2) – No

SARA Section 311/312 40 CFR 370:
- Sodium Hypochlorite (CAS 7681-52-9) – Yes
- Sodium Hydroxide (CAS 1310-73-2) – Yes

SARA Section 313 40 CFR 372:
- Sodium Hypochlorite (CAS 7681-52-9) – No
- Sodium Hydroxide (CAS 1310-73-2) – No

Toxic Substances Control Act (TSCA):
- Sodium Hypochlorite (CAS 7681-52-9) – Yes
- Sodium Hydroxide (CAS 1310-73-2) – Yes

Canadian Environmental Protection Act, Domestic Substance List (CEPA-DSL):
- Sodium Hypochlorite (CAS 7681-52-9) – Yes
- Sodium Hydroxide (CAS 1310-73-2) – Yes

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California Proposition 65:

Sodium Hypochlorite (CAS 7681-52-9) – No
Sodium Hydroxide (CAS 1310-73-2) – No

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):

EPA Reg. No. 59074-20001

16. OTHER INFORMATION

HMIS RATINGS		NFPA RATINGS	
Health	2	Health	2
Flammability	0	Flammability	0
Reactivity	2	Reactivity	2

Revision Date	Section(s) Updated
04.28.15	N/A
03.01.17	1, 11, F
06.27.18	1, F

Disclaimer

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RFB-RC-2021-086- ITEM # 8

SAFETY DATA SHEET

Product Name : Poly Solv **Date Issued : May 3, 2018**

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: Poly Solv **01** **Chemical Synonym / C# :** c395
Formula : Multi-component mixture **Chemical Family: Multi Component Mixture**

Supplier : Clean Waters Inc. 26808 County Rt. 3 Plessis, NY 13675
Information Telephone : (315)778-5218 **Emergency Telephone :** (607)529-3218

SECTION 2 : HAZARD IDENTIFICATION

Form : Liquid **Color :** Clear, blue
Emergency Overview : Solutions are eye and skin irritants, and prolonged or repeated contact may cause irritation. Mists are irritating to the skin, mucous membranes, and upper respiratory tract. Read the entire SDS for a more thorough evaluation of the hazards.
OSHA Hazard Communication Standard : This product has been evaluated and classified as defined by OSHA Hazard Communication Standard, 29CFR 1910.1200.
GHS Classification :
Eye Irritation (Category 2A Irritant)
Skin Irritation (Category 2 Irritant)
Acute toxicity (oral, Category 5)
Specific Target Organ Toxicity following single exposure (respiratory, Category 3)
Label Elements :
Signal Word : Warning

GHS Hazard Pictograms : Exclamation Mark
Hazard Statements :
H303 May be harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation
Precautionary Statements :
P102 Keep out of reach of children.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P281 Use personal protective equipment as required.
P301+ P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P312 IF INHALED:Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 IF eye irritation persists: Get medical advice/attention.
P302 + P351 IF ON SKIN Rinse cautiously with water for several minutes.
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
Other hazards which do not result in classification :
None known. See Section 11 for Potential Health Hazards

SAFETY DATA SHEET

Product Name : Poly Solv **Date Issued : May 3, 2018**

SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	CAS #	% (w/w)
2-Butoxyethanol	111-76-2	5 - 10
Sodium Metasilicate	6834-92-0	1 - 5

Unlisted components are considered non-hazardous as per 29CFR1910.1200g2C. See section 15 for specific state right-to-know information if applicable.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush contacted area repeatedly with water for at least 15 minutes, holding eyelids open. Contact a physician for treatment.
Skin Contact: Immediately flush contacted area repeatedly with water for at least 15 minutes. If irritation persists, contact a physician for treatment. Clean contaminated clothing before reuse.
Inhalation: Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs, remove victim to fresh air. If irritation persists, seek medical attention.
Ingestion: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give 1-2 glasses of water to drink, if conscious and alert.
Notes to physician : treat symptomatically. No specific antidote available. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5 : FIRE FIGHTING MEASURES

Extinguishing Media: None required.
Fire Fighting Procedures: Use caution when fighting any fire. Adequate respiratory protection is essential.
Unusual Fire and Explosion Hazards: None known.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions : Use suitable protective equipment (See Section 8 : "Exposure controls / personal protection").
Steps to be taken in case material is released or spilled:
Small Spill: Absorb with suitable absorbent such as sand or vermiculite.
Large Spill: Stop leak at source and contain spill with dike made of inert material such as sand or diatomaceous earth. Pump material to suitable container for possible reuse.
Solid spill: Sweep up and return to container.

SECTION 7 : HANDLING AND STORAGE

Handling: Avoid breathing vapors and mists. Avoid direct or prolonged contact with skin and eyes. In cold weather, liquids may stratify and freeze. This does not damage the product. If freezing occurs, thaw and remix before using. Frozen material may be thawed in a warm room. Avoid localized overheating. Vent drums while heating. Mix thoroughly to assure homogeneity. Handle with care. Wash thoroughly after handling.

SAFETY DATA SHEET

Product Name : Poly Solv **Date Issued : May 3, 2018**

Storage Requirements: Keep container closed. Store in an area that is dry and well-ventilated, away from incompatible materials (see section 10). For Industrial and commercial use only!

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Hazardous Ingredient	ACGIH TLV (mg/m3) TWA	ACGIH TLV (mg/m3) STEL
2-Butoxyethanol	121 (skin)	-
Sodium Metasilicate	-	-

Engineering measures :

Ventilation / Local Exhaust : General room ventilation.

Ventilation / Mechanical Recommendations: None required.

Personal protective equipment :

Respiratory Protection: Not required for properly ventilated areas.

Skin Protection: Vinyl or rubber protective gloves.

Eye Protection: Goggles or face shield.

Other Protective Equipment: Vinyl apron (optional).

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance / Odor: Clear, blue liquid, mild solvent odor.

Water Solubility: complete

pH (1%): > 10

Specific Gravity: 1.05

Boiling Point (°F) : 212+

Evaporation Rate(water=1): N/A

% Volatile: N/A

Vapor Density(air=1) : N/A

Vapor Pressure(mmHg): N/A

Flash Point : None

Flash Point Method Used: N/A

Flammable Limits: LEL = N/A **UEL =** N/A

SECTION 10 : STABILITY AND REACTIVITY

Hazardous Decomposition Products: None.

Chemical Stability: Stable.

Conditions to Avoid: Avoid contact with hot solutions, splashing solutions, prolonged skin contact.

Incompatibility with other Substances: Acids, oxidizers

Hazardous Polymerization: Will not occur.

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Product Name : Poly Solv **Date Issued : May 3, 2018**

SECTION 11 : TOXICOLOGICAL INFORMATION

Potential Health Hazards (as mild alkaline or detergent blend) :

Inhalation: Inhalation of mists or dusts may cause irritation to respiratory tract. Symptoms from excessive inhalation or of concentrated product may include gasping or coughing and difficulty breathing. Excessive contact may cause damage to the nasal septum.

Skin Contact: May cause mild irritation. Concentrated or prolonged contact may cause irritation with redness and blistering.

Eye Contact: May cause mild irritation. Concentrated or prolonged contact may cause conjuctival edema and corneal destruction.

Ingestion: Swallowing may produce gastrointestinal upset. Symptoms from ingestion of large doses may include severe abdominal pain, vomiting, and diarrhea.

Toxicological Data: Toxicological studies were not performed on the blended product, although it is considered to be a severe eye irritant, and moderately irritating to the skin.

Toxicological Data (as Sodium Metasilicate):

Acute toxicity

Ingestion Material will cause chemical burns. All symptoms of acute toxicity are due to high alkalinity.
Oral LD50 (rat) 1152-1349 mg/kg bw

Inhalation Dust is severely irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity.
Inhalation LC50 (rat) >2.06 g/mÑ

Skin Contact Material will cause chemical burns.
Dermal LD50 (rat) >5000 mg/kg bw

Eye Contact Material will cause chemical burns. May cause permanent damage if eye is not immediately irrigated.

Skin corrosion/irritation: Corrosive to: Skin.
Serious eye damage/irritation: Corrosive to: Eyes.
Sensitisation : Not sensitising. (LLNA)
Mutagenicity : No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity : Components are not listed by IARC, NTP or OSHA as carcinogens.
Reproductive toxicity : No evidence of reproductive toxicity or developmental toxicity.
STOT - single exposure Irritating to respiratory system.
STOT - repeated exposure Not classified. NOAEL oral (rat) 227 mg/kg bw/d
Aspiration hazard : Not classified
Other information: Not applicable.

Toxicological Data (as 2-Butoxyethanol):

Peroral :	rat LD50 : 2.68 (1.85 - 3.88) ml/kg
Percutaneous :	rabbit LD50 24hr occuluded contact : 0.63 (0.368 - 1.03) ml/kg
Inhalation :	rat LC50 male : 486 (339-696) ppm
	rat LC50 female : 450 (315-645) ppm
Irritation :	skin : rabbit 24 hour uncovered = minimal erythema in 2/5; no irritation 3/5
	eye : rabbit 0.5ml 15% dilution in water = moderate corneal injury.
	eye : rabbit 0.005ml = severe corneal injury and iritis.

Carcinogenicity: This product does not contain any materials considered to be carcinogenous according to OSHA, NTP, IARC, or ACGIH.

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Product Name : Poly Solv **Date Issued : May 3, 2018**

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicological Information: No data found for the blended product.

Ecotoxicological Information (as Sodium Metasilicate):
Fish (Brachydanio rerio) LC50 (96 hour) 210 mg/l
Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700mg/l
Environmental Effects:
Persistence and Degradation: Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
Bioaccumulative potential : Inorganic. The substance has no potential for bioaccumulation.
Mobility in soil : Not applicable.
Results of PBT and vPvB assessment : Not classified as PBT or vPvB.
Other adverse effects : The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.

Ecotoxicological Information (as 2-Butoxyethanol):
Toxicity to micro-organisms: Bacterial/NA IC50 > 5000 mg/l
Toxicity to Aquatic Invertebrates : Daphnia LC50 48 h > 1000 mg/l
Toxicity to fish : Fathead minnow LC50 96 h = 1700 mg/l
Environmental Fate (as 2-Butoxyethanol):
BOD (% oxygen consumption) : Day 5 = 26%, Day 10 = 74%, Day 20 = 88%

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal Method: Recycle, recovery and reuse of materials, where permitted, is encouraged as an alternate to disposal as a waste. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA listed hazardous waste or has any of the four RCRA hazardous waste characteristics. Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA listed hazardous waste. RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: *Ignitability, Corrosivity, Reactivity, and Toxicity*. To determine Ignitability, see Section 9 of this SDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed.
Is the unused product a RCRA hazardous waste (40CFR261.33) if discarded? No
If yes, the RCRA ID number is : N/A

SECTION 14 : TRANSPORTATION INFORMATION

Transportation Emergency Telephone Number: 3E 24 hour number : (866)302-6855*
*Please refer to c# referenced in section 1 of this sds.

UN Number / DOT Proper Shipping Name / DOT Hazard Class /Packing Group / DOT Label & other information: NOT REGULATED BY DOT (mildly alkaline cleaning liquid NOIBN)

SAFETY DATA SHEET

Product Name : Poly Solv **Date Issued : May 3, 2018**

SECTION 15 : REGULATORY INFORMATION

US FEDERAL REGULATIONS :

TSCA (Toxic Substances Control Act) Status : TSCA (United States) The intentional ingredients of this product are listed.

CERCLA RQ - 40CFR302.4(a) : none listed

SARA 302 Components - 40 CFR 355 Appendix A : none

SARA 311/312 Classification - 40 CFR 370.2 : meets the following categories :
(as 2-Butoxyethanol) : delayed hazard, fire hazard, immediate health hazard
(as Sodium Metasilicate) Acute Health Hazard

SARA 313 Components - 40 CFR 372.65:

Section 313 Component(s)	CAS #	%
Glycol Ether	None	5 - 10

INTERNATIONAL REGULATIONS :

Inventory Status (as 2-Butoxyethanol)
2-Butoxyethanol is on the following lists : European Inventory of Existing Commercial Chemical Substances (EINECS), CEPA - Domestic Substances List (DSL)

STATE REGULATIONS :

California Safe Drinking Water Act (Prop. 65) Listing : None listed.

Other Regulations / Legislation which apply to this product:

Sodium Metasilicate (CAS# 6834-92-0) is listed on the following inventories : Pennsylvania Right To Know, New Jersey Right To Know

2-Butoxyethanol is on the following lists : Massachusetts (Hazardous Substances Disclosure by Employers), Pennsylvania (Worker and Community Right-to-Know Act)

SECTION 16 : OTHER INFORMATION

NFPA Rating : HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0
NFPA hazard degree designation 704: 4 = extreme, 3 = high, 2 = moderate, 1 = slight, 0 = none.

Revision Date : 3/20/2017

Information and data compiled to compose this SDS is correct to the best of our knowledge as of the printed date, and is offered solely for your consideration, investigation, and verification.

UNITED SALES USA CORP
ITEM #'S [redacted],12,13

Citrus EMD

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/07/2015

SECTION 1: Identification

1.1. Identification

Product form	: Mixture
Product name	: Citrus EMD
Product code	: 155-162

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	: Cleaning / stripper product

1.3. Details of the supplier of the safety data sheet

American Cleaning Solutions
39-30 Review Avenue
Long Island City, NY 11101
T (718) 392-8080

1.4. Emergency telephone number

Emergency number	: INFOTRAC: 800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 2A	H319
Skin sensitization Category 1	H317

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US)	: Warning
Contains	: (+)-limonene
Hazard statements (GHS-US)	: H315 - Causes skin irritation H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation
Precautionary statements (GHS-US)	: P261 - Avoid breathing dust/mist/spray P264 - Wash hands and forearms thoroughly after handling P272 - Contaminated work clothing must not be allowed out of the workplace P280 - Wear protective gloves/eye protection/face protection P302+P352 - If on skin: Wash with plenty of soap and water P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P321 - Specific treatment (see First aid measures on this label) P332+P313 - If skin irritation occurs: Get medical advice/attention P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P337+P313 - If eye irritation persists: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P363 - Wash contaminated clothing before reuse P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
butyl glycolether	(CAS No) 111-76-2	10 - 20	Flam. Liq. 4, H227 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation:gas), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
(+)-limonene	(CAS No) 5989-27-5	5 - 10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317

Full text of H-phrases: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see First aid measures on this label). If skin irritation or rash occurs:

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause an allergic skin reaction.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/mist/spray.

Hygiene measures : Wash hands and forearms thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from heat, hot surfaces, sparks, open flame and other ignition sources. No smoking. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

(+)-limonene (5989-27-5)
Not applicable

butyl glycolether (111-76-2)		
ACGIH	ACGIH TWA (ppm)	20 ppm (2-Butoxyethanol (EGBE); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m³)	240 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	50 ppm

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves/eye protection/face protection protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : amber

Odor : Butyl

Odor threshold : No data available

pH : 9 - 10

Melting point : No data available

Freezing point : No data available

Boiling point : 212 - 220 °F

Flash point : 200 °F

Relative evaporation rate (butyl acetate=1) : No data available

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Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: 0.96
Relative vapor density at 20 °C	: Same as water
Solubility	: Soluble in water. Water: Solubility in water of component(s) of the mixture : •: •: •:
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

(+)-limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg body weight (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Literature study; > 2000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 5000 mg/kg body weight (Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
ATE US (oral)	4400.000 mg/kg body weight

butyl glycolether (111-76-2)	
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	435 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity; 435 mg/kg bodyweight; Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	2.17 mg/l/4h (Rat; Experimental value; 2.35 mg/l/4h; Rat; Experimental value)
LC50 inhalation rat (ppm)	450 - 486 ppm/4h 450-486,Rat
ATE US (dermal)	435.000 mg/kg body weight
ATE US (gases)	450.000 ppmV/4h
ATE US (vapors)	2.170 mg/l/4h
ATE US (dust, mist)	2.170 mg/l/4h

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Skin corrosion/irritation	: Causes skin irritation. pH: 9 - 10
Serious eye damage/irritation	: Causes serious eye irritation. pH: 9 - 10
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

(+)-limonene (5989-27-5)	
IARC group	3 - Not classifiable

butyl glycolether (111-76-2)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: May cause an allergic skin reaction.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

(+)-limonene (5989-27-5)	
LC50 fish 1	720 µg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	0.36 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	150 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Desmodesmus subspicatus; Static system; Fresh water; Read-across)

12.2. Persistence and degradability

Citrus EMD	
Persistence and degradability	Not established.

(+)-limonene (5989-27-5)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.
ThOD	3.29 g O_2/g substance

butyl glycolether (111-76-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.71 g O_2/g substance
Chemical oxygen demand (COD)	2.20 g O_2/g substance
ThOD	2.305 g O_2/g substance
BOD (% of ThOD)	0.31

12.3. Bioaccumulative potential

Citrus EMD	
Bioaccumulative potential	Not established.

(+)-limonene (5989-27-5)	
BCF fish 1	864.8 - 1022 (BCF; Pisces)
Log Pow	4.38 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 37 °C)

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(+)-limonene (5989-27-5)	
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

butyl glycolether (111-76-2)	
Log Pow	0.81 (Experimental value; BASF test; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

(+)-limonene (5989-27-5)	
Log Koc	Koc,SRC PCKOCWIN v2.0; 1120 - 6324; QSAR

butyl glycolether (111-76-2)	
Surface tension	0.027 N/m (25 °C)

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Citrus EMD
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

(+)-limonene (5989-27-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

butyl glycolether (111-76-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

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SECTION 16: Other information

Revision date : 05/07/2015

Other information : None.

Full text of H-phrases:

H226	Flammable liquid and vapor
H227	Combustible liquid
H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled

HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection : B

B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

BID ITEM #14

ODOPHOS® Product Specifications

ODOPHOS®... The Safe Solution

ODOPHOS® is an aqueous solution of ferrous sulfate, $FeSO_4$. It is an efficient flocculant and precipitant for variety of wastewater treatment processes. It is a very economical means for Hydrogen Sulfide control, phosphorus removal, and sludge conditioning.

Storage and Handling: Fiberglass reinforced plastic, polypropylene, polyethylene, and polyvinyl chloride are suitable materials of construction for storage tanks and process lines.

ODOPHOS® is shipped by 5000 gallon tanker trucks. Other shipping and packaging methods can be recommended upon request.

Safety and First Aid: Do not ingest ODOPHOS®. Do not breathe ODOPHOS® mists. Avoid eye and skin contact with ODOPHOS®. In case of contact, wash promptly with copious amounts of water. Wash contaminated shoes and clothing thoroughly. Consult a physician if someone ingests or inhales ODOPHOS®.

We will be pleased to advise on the application of our water treatment chemicals and to help you solve water treatment problems. Technical service personnel are available for laboratory and plant tests. All information given in good faith without guarantee of accuracy and no liability is accepted for infringement of patents.

Physical Properties		Nominal Concentrations	
Specific Gravity	1.17 (9.76 lb/gal)	Soluble Ferrous Iron	0.48-0.51 #Fe/gal
Freezing Point	28°F (-2°C)	$MgSO_4$	<1.5%
pH	>2	$MnSO_4$	<0.2%
Color	Green/Turbid Green	Insolubles	<0.5%
		Free Acid as H_2SO_4	<0.8%
		* Trace Elements	<0.02%

**Analysis of trace elements will be furnished upon request.*

Evoqua
Water Technologies LLC
2650 Tallevast Road
Sarasota, FL 34243
Toll-free: 800.345.3982
Fax: 941.359.7985
www.evoqua.com

EVOQUA WATER TECHNOLOGIES

Odophos®, PRI-SC Odophos®

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 3/17/2000 Revision date: 1/4/2021 Supersedes: 7/26/2019 Version: 4.0

SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	Odophos®, PRI-SC Odophos®
Synonyms	:	PRI-SC Odophos

1.2. Recommended use and restrictions on use

Recommended use	:	Odor Control, Water treatment chemicals
Restrictions on use	:	None known

1.3. Supplier

Evoqua Water Technologies
210 Sixth Avenue Suite 3300
Pittsburgh, PA 15222
T 724-772-0044
information@evoqua.com

1.4. Emergency telephone number

Emergency number	:	1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage

Precautionary statements (GHS US) :
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P302+P352 - If on skin: Wash with plenty of water.
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.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.

P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	CAS-No.: 7732-18-5	79 – 87	Not classified.
Ferrous sulfate	CAS-No.: 7720-78-7	13 – 20	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Sulfuric acid	CAS-No.: 7664-93-9	< 1	Skin Corr. 1A, H314 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Not determined.

5.2. Specific hazards arising from the chemical

No additional information available.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not handle until all safety precautions have been read and understood.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Odophos®, PRI-SC Odophos®
No additional information available.

Ferrous sulfate (7720-78-7)
No additional information available.

Sulfuric acid (7664-93-9)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.2 mg/m³ (thoracic particulate matter)
ACGIH chemical category	Suspected Human Carcinogen contained in strong inorganic acid mists
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	1 mg/m³

Water (7732-18-5)
No additional information available.

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Color : Green
Odor : Metallic
Odor threshold : No data available.
pH : 1.2 – 2.5
Melting point : Not applicable
Freezing point : No data available.
Boiling point : No data available.
Flash point : 214 – 215 °F
Relative evaporation rate (butyl acetate=1) : No data available.
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available.
Relative vapor density at 20 °C : No data available.

Relative density	: 1.15 – 1.19
Solubility	: No data available.
Partition coefficient n-octanol/water (Log Pow)	: No data available.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: No data available.
Explosive properties	: No data available.
Oxidizing properties	: No data available.

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

Odophos®, PRI-SC Odophos®	
ATE US (oral)	1595 mg/kg body weight

Ferrous sulfate (7720-78-7)	
LD50 oral rat	319 mg/kg
ATE US (oral)	319 mg/kg body weight

Sulfuric acid (7664-93-9)	
LD50 oral rat	2140 mg/kg

Sulfuric acid (7664-93-9)	
LC50 Inhalation - Rat	0.375 mg/l/4h

Water (7732-18-5)	
LD50 oral rat	> 90 ml/kg

Skin corrosion/irritation : Causes skin irritation.
pH: 1.2 – 2.5

Serious eye damage/irritation : Causes serious eye damage.
pH: 1.2 – 2.5

Respiratory or skin sensitization : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Sulfuric acid (7664-93-9)	
IARC group	1 - Carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

Aspiration hazard : Not classified.

Viscosity, kinematic : No data available.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Sulfuric acid (7664-93-9)	
LC50 - Fish [1]	> 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

Sulfuric acid (7664-93-9)	
BCF - Fish [1]	(no bioaccumulation)

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with Department of Transport / IMDG / IATA

14.1. UN number

DOT NA No : UN3264
UN-No. (IMDG) : 3264
UN-No. (IATA) : 3264

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Corrosive liquid, acidic, inorganic, n.o.s.
Proper Shipping Name (TDG) : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Proper Shipping Name (IMDG) : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Proper Shipping Name (IATA) : Corrosive liquid, acidic, inorganic, n.o.s.

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 8
Hazard labels (DOT) : 8

IMDG
Transport hazard class(es) (IMDG) : 8
Hazard labels (IMDG) : 8

IATA
Transport hazard class(es) (IATA) : 8
Hazard labels (IATA) : 8

14.4. Packing group

Packing group (DOT) : III
Packing group (IMDG) : III
Packing group (IATA) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT)	: UN3264
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"

IMDG

Special provision (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes.

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Odophos®, PRI-SC Odophos®	
SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation Health hazard - Acute toxicity (any route of exposure)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ferrous sulfate (7720-78-7)	
CERCLA RQ	1000 lb

Sulfuric acid (7664-93-9)	
CERCLA RQ	1000 lb
Section 302 EPCRA Reportable Quantity (RQ)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb

15.2. International regulations

Sulfuric acid (7664-93-9)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	**State or local regulations**
Ferrous sulfate(7720-78-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List
Sulfuric acid(7664-93-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date : 01/04/2021

Full text of H-phrases	
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation

Safety Data Sheet (SDS), USA

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable