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, 2022, through December 19, 2023 w/ (4) 1-year options **Extended through December 19, 2024, w/ (3) 1-year options**
Original Date of Issue:	December 19, 2022
Date of Revision:	9/28/23
BID No:	**RFB-RC-2022-138**
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 22-138	0000023044	GP Jager, Inc. PO Box 50 Boonton, NJ 07005 Contact: Janelle Sanz jsanz@jagerinc.com	973-750-1180 Fax: 973-750-1181
BID 22-138-A	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 22-138-B	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 22-138-C DID NOT RENEW 12/20/23	0000020528	Koester Associates Inc. 3101 Seneca Turnpike Canastota, NY 13032 Contact: Mark Koester mkoester@koesterassociates.com nmarkle@koesterassociates.com	315-367-3800 Fax: 973-492-9581
BID 22-138-D	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
BID 22-138-E	0000005392	Cleaning Systems Inc. 590 Franklin Avenue Mount Vernon, NY 10550 Contact: Glenn Maller glennjmaller@gmail.com	914-738-4400
BID 22-138-F DID NOT RENEW 12/20/23	0000026632	PVS Minibulk Inc. 10900 Harper Avenue Detroit, MI 48213 Contact: Shauna Barthel bids@pvschemicals.com	313-921-1200 Fax: 313-571-6765

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT of MEASURE	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	50 pails	50 lb. Pail	$187.50	**SOLENIS (MINIMUM 24 PAILS PER ORDER) 23211**	**GP Jager Inc.**
2	**Hydrogen Peroxide H_20_2 50% Solution** Bulk tank delivery FMC, Slack Chemical H0248, Dupont #35925998, Arkena by Coyne, FMC 50% Solution or approved equal	88582770001	500 gallon bulk (Appr.5000 lbs.)	Gallon	$19.99	**Slack Chemical H0248**	**Slack Chemical Co. Inc.**
3	**Potassium Permanganate (1-23 drums per delivery)** Oxidant, Free-flowing, estimated quantity based on 330.75 lbs. net weight per 150 kg drum metal containers, as per the attached specifications, four (4) drums per pallette **Price based on 1-23 drums per delivery** **Cairox** by Carus LLC or approved equal **LINES 3 AND 4 WIL BE AWARDED AS A GROUP**	88540540001	15,876	lb			**No Award**
4	**Potassium Permanganate (24 or more drums per delivery)** Oxidant, Free-flowing, estimated quantity based on 330.75 lbs. net weight per 150 kg drum metal containers, as per the attached specifications, four (4) drums per pallette **Price based on 24 or more drums per delivery** **Cairox** by Carus LLC or approved equal **LINES 3 AND 4 WIL BE AWARDED AS A GROUP**	88540	15,876	lb			**No Award**
5	**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	$325.00	**Natrium S0132**	**Slack Chemical Co. Inc.**
6	**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	$694.00	**Brenntag C0442**	**Slack Chemical Co. Inc.**

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT of MEASURE	UNIT PRICE	MFG. & PRODUCT CODE	VENDOR
7	**Sodium Hydroxide (Caustic), 50% Solution Bulk Shipment, 500-1,000 gallons per truckload** As per the attached specifications BCS, K A Steel, Olin Atochem, by Jones Chemical or approved equal	88584740001 **DO NOT USE EFFECTIVE 12/20/23**	500-1000 gallon per truck load	Gallon - bulk delivery	$7.15	**Kuehne Chemical 32839**	**PVS Minibulk Inc.** **DO NOT USE EFFECTIVE 12/20/23**
8	**Sodium Hypochlorite, 15% Solution, NaOCl** Pkg: 55 gallon polyethylene drum as per the attached specifications UBA, Sunny Sol by Jones Chemical, Slack Chemical, United Chemical or approved equal	88582770004	1 drums	55 Gallon polyethylene drum	$344.73	**Slack Chemical B0386**	**Slack Chemical Co. Inc.**
9	**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	5	55 gallon metal drums	$1,350.00	**Clean Waters, Inc. Poly-Solv 01**	**Clean Waters Inc.**
10	**Polymer Blending Unit System Flush** Used for blending unit preventive maintenance program, contains NO caustics, No acids, No solvents, and has a neutral pH. Compatible with plastics, glass, and metals. MUST NOT harm the blending unit, must lubricate and protect wear parts, reducing pump rebuilds, may be used weekly. **Poly Solv 02 Mfg. Clearwaters, Inc. or approved equal**	88570000007	5	55 gallon drums	$2,150.00	**Clean Waters, Inc. Poly-Solv 02**	**Clean Waters Inc.**
11	**Vapor Degreasing & Cleaning Solvent** Non-flammable replacement solvent Contains no chlorinated solvents or carcinogens in its inhibitor package, For use in Sewer District wet wells Ensolve, Bioesque Solutions BHDCD55G 87742-1, Red Lion Research P/N 7430, Red Lion Superet Clean by Chromate Industrial, Simoniz Citrus Plus h1140-3367 or approved equal	88546100002	1 drum	55 gallon drums	$365.00	**Simoniz Citrus P55**	**Cleaning Systems**

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT of MEASURE	UNIT PRICE	MFG. & PRODUCT CODE	VENDOR
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			**No Award**
13	**Parts Washing Fluid** **Pkg.: 55 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			**No Award**

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT of MEASURE	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 **BULK DELIVERY - QUANTITIES TO BE ORDERED 4,500 to 5,000 GALLONS PER TRUCKLOAD PER DELIVERY**	88560400001	4500	Gallon	$1.56	Thatcher	**Evoqua Water Technologies**
15	**DEFOAMER- Biological Foam Control** Non-Hazardous defoamer effective on Biological Foam found in Digestors, Equalization Basins, Flumes, and Effluent Outfall, Contains NO Liquid Hydrocarbons, does NOT cause oily sheen on river outfall. For outfall applications dosages typically range from 1 to 20 PPM, for Flumes and Equalization basins typical dosages range from 30 to 100 PPM. Product must not separate upon storage and does NOT require stirring prior to use. Shelf life greater than one (1) year, product will freeze, store above 50 degrees Farenheit. MSDS required. **BFI**-777 **Mfg. Clearwaters, Inc. or approved equal**	19090350003	10	55 gallon drums	$548.00	Clean Waters, Inc. BFI-777	**Clean Waters Inc.**

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT of MEASURE	UNIT PRICE	MFG. & PRODUCT CODE	VENDOR
16	**STRUVICIDE SOAK**- Dissolves blockages of minerals,, including struvite, vivianite and other mineral build up in porcess equipment, heat exchangers, pipes, centrifuges, and other areas of contamination, can be diluted with water and stilll maintain a high efficiency rate, non-corrosive, fast acting, can be utilized for soak or recirculate processes. Mfg. Grinard Struvicide Soak or equivalent· estimated quantity based on 12 each 275 Gallon Totes- bidder must enter mfg. product code and tote size offered. This product will be ordered on an as need basis.	19090350004 **DO NOT USE EFFECTIVE 12/20/23**	3300	Gallon	$7.15	Grignard Struvicide Soak INGCSVWWXSTSOAT T01- 275 Gallon Tote Size	**Koester Asscoiates Inc.** **DO NOT USE EFFECTIVE 12/20/23**

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	**RFB #: RFB-RC-2022-138**

SPECIFICATIONS

1. **SCOPE**

1.1. The scope 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.

4.3.1. 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.

4.3.2. 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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	**RFB #: RFB-RC-2022-138**

4.4. 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. If the sample is not received as requested, the bidder may be deemed non-responsive and removed from evaluation.

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 and 11 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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	**RFB #: RFB-RC-2022-138**

10. **PRICE ADJUSTMENTS**

The County recognizes this product or service has a price component that may have a commodity with changing costs. The Contractor/Supplier may request a Price Adjustment no more frequently than once each quarter (3-month period).

A Price Adjustment request must be made in writing and include the reason for the request, documentation supporting the request (ie, commodity increases), the current pricing, and the requested revised pricing.

The County will review the Price Adjustment request. If the Price Adjustment is deemed reasonable the Price Adjustment request will be accepted by written acknowledgement. If the request is not accepted the County may entirely reject the request or may counter with revised pricing. In either case the County will provide a written explanation in support of the decision.
The Director of Purchasing may use available indexes (e.g. CPI or PPI) to determine if the requested Price Adjustment is reasonable. Typically, a Price Adjustment that exceeds 5% will not be approved unless very unusual and significant changes have occurred in the industry.

In the event industry costs decline, the County shall have the right to receive, from the Contractor, a reasonable reduction in prices/pricing that reflect such cost changes in the industry. The County will make a written request to the Contractor for a Price Adjustment in writing with supporting documentation.

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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	RFB #: RFB-RC-2022-138

DETAILED SPECIFICATIONS FOR POTASSIUM PERMANGANATE (ITEM # 3 and 4)

- **REQUIREMENTS**
  - **Quality** - The material is to be potassium permanganate, free-flowing, as manufactured by Carus LLC. 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 150 kg (330.75 lbs. net weight) metal drum containers with handle lid type: full open head with lever lock lid. The drums are to be shrink wrapped on wooden pallets, 4 drums 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 five 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. If delivery times extend beyond the 5-day lead time. Supplier must notify the Sewer district immediately, so they can plan accordingly.
  - **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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	RFB #: RFB-RC-2022-138

DETAILED SPECIFICATIONS FOR SODIUM HYDROXIDE (ITEMS # 6 AND # 7)

- **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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	RFB #: RFB-RC-2022-138

DETAILED SPECIFICATIONS FOR SODIUM HYPOCHLORITE (ITEM # 8)

- **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 #9)

- **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.

COUNTY OF ROCKLAND - DGS-PURCHASING
BLDG. A., 6TH FLOOR, 50 SANATORIUM RD, POMONA, NY 10970
TELEPHONE: 845-364-3820 / TELEFAX: 845-364-3809

TITLE: Chemicals - Wastewater, Chlorine Gas, Chemicals, Degreaser, Lubricants, and Cleaning Solvents	RFB #: RFB-RC-2022-138

DETAILED SPECIFICATIONS FOR POLYMER BLENDING UNIT FLUSH SYSTEM (ITEM #10)

- **POLY SOLV 02 – MFG CLEARWATERS, INC. SPECIFICATIONS**
  - Used for blending unit preventive maintenance program
  - Non-toxic dye will visually let you see when the unit has been saturated
  - Contains NO caustics, NO acids, NO solvents and has a neutral Ph
  - Compatible with plastics, glass and metals.
  - Must not harm the blending unit
  - Must lubricate and protect wear parts, reducing [ump rebuilds,
  - May be used weekly
- **CONTAINERS**
  - 55-gallon drums
  - Delivery time is from 7:00 AM - 2:30 PM, Monday through Friday.

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.

DETAILED SPECIFICATIONS FOR DEFOAMER (ITEM # 15)

- **BFI-777- DEFOAMER – NON-HAZARDOUS - CLEAN WATERS, INC.**
  - Effective on biological foam found in digestors, equalization basins, flumes, and effluent outfall.
  - Contains no liquid hydrocarbons that cause oily sheen on river outfall
- **RECOMMENDED USAGE LEVELS**
  - **For outfall applications-**
    - Summertime dosages may range from 0.5 to 10 PPM based on the loading of the system
    - Winter months- typical dosages will range from 1 to 20 PPM
  - **For Flumes and Equalization Basins-**
    - dosages may range from 30 to 100 PPM
- **STORAGE AND HANDLING**
  - Product does NOT separate upon storage
  - Does NOT require stirring prior to use
  - Shelf life is greater than one (1) year.
  - Product will freeze above 50 degrees Fahrenheit

Rockland County
Ed Day, Rockland County Executive

DEPARTMENT OF GENERAL SERVICES, PURCHASING DIVISION
Dr. Robert L. Yeager Health Center
50 Sanatorium Rd, Building A
Pomona, New York 10970
Phone: (845) 364-3820 Fax: (845) 364-3809
Email: purchasing@co.rockland.ny.us

Paul Brennan, FNIGP, NIGP-CPP, CPPO
Director of Purchasing

ADDENDUM # 1

RFB-RC-2022-138
CHEMICALS

The information in this addendum supersedes any contradictory information set forth in the contract documents. Acknowledge receipt of this addendum in the space provided on the signature page of the bid proposal. Failure to do so, may subject the bidder to disqualification. This addendum forms a part of the contract documents.

Question #1-
What is the annual usage for the Sodium Hydroxide 50% that's in the bid. It states 500-1000g deliveries but doesn't specify the annual usage or frequency of deliveries.

Answer #1-
The Rockland County Sewer District #1 does not currently use this product regularly. It is listed on this Bid for an as needed basis, or in case it is needed by other municipalities and towns authorized to use this contract. Annual usage is not known**.**

SIGNED:

Paul J. Brennan

PAUL J. BRENNAN, FNIGP, NIGP-CPP, CPPO
DIRECTOR OF PURCHASING

ADDENDUM

10/20/22

Rockland County
Ed Day, Rockland County Executive

DEPARTMENT OF GENERAL SERVICES, PURCHASING DIVISION
Dr. Robert L. Yeager Health Center
50 Sanatorium Rd, Building A
Pomona, New York 10970
Phone: (845) 364-3820 Fax: (845) 364-3809
Email: purchasing@co.rockland.ny.us

Paul Brennan, FNIGP, NIGP-CPP, CPPO
Director of Purchasing

ADDENDUM # 2

RFB-RC-2022-138
CHEMICALS

The information in this addendum supersedes any contradictory information set forth in the contract documents. Acknowledge receipt of this addendum in the space provided on the signature page of the bid proposal. Failure to do so, may subject the bidder to disqualification. This addendum forms a part of the contract documents.

Question #1- What are the proposed effective dates for this contract?
Answer #1- We intend to award this contract to be effective December 20, 2022 through December 19, 2023 with four (4) one-year options.

Question #2- Are the extensions by mutual agreement of both parties? Are price adjustments allowed for the extension options? If the extension is not agreed upon, will the county rebid this opportunity?
Answer # 2- All extensions must be mutually agreed to by both parties. Price adjustments may be accepted. The terms for any price adjustments requested, are listed in the Bid specifications, Section 10. PRICE ADJUSTMENTS. The county will rebid any contracts that are not renewed by either party.

Question #3- What is the typical delivery pattern that Rockland County orders of the potassium Permanganate?
Answer #3 – Orders will be placed based on the needs of the Sewer District. Prices must be submitted based on quantity of drums ordered per delivery. See bid table items 3 and 4.

Question #4 – Who is the current supplier of the potassium permanganate? What was the volume of potassium permanganate used in 2021 and 2022?
Answer # 4- Rockland County was recently authorized to purchase potassium permanganate off the current Westchester County Contract 5749-BPS. The Sewer District was not suing this product in 2021. Rockland County Sewer District #1 purchased 7,938lbs of potassium permanganate (24 drums/330.75lbs per drum) in 2022.

SIGNED:
Paul J. Brennan

PAUL J. BRENNAN, FNIGP, NIGP-CPP, CPPO
DIRECTOR OF PURCHASING

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

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

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

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

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)

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

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

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-

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

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

			(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

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

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

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.

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.

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

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.

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).

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

Slack Chemical Company Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material for a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. SLACK CHEMICAL COMPANY INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, SLACK CHEMICAL COMPANY INC. WILL NOT BE REPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

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.

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).

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.

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,

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.

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

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

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

Slack Chemical Company Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material for a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. SLACK CHEMICAL COMPANY INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, SLACK CHEMICAL COMPANY INC. WILL NOT BE REPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

86 North Hackensack Avenue,
Kearny, NJ 07032-4675
Tel. 973-589-0700
Fax. 973-589-4866
www.kuehnecompany.com

(This SDS follows the GHS format)

SODIUM HYDROXIDE

(All Grades)

SDS NUMBER: **KCC – NAOH - 001**

SDS DATE: **June 6, 2022**

24 HOUR EMERGENCY PHONE NUMBER: **(973) 589-0700**
Alt. (551) 200-2751
CHEMTREC – (800) 424-9300

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Caustic Soda Liquid (All Grades)

Chemical Name: Sodium Hydroxide

CAS Number: 1310-73-2

Common Names: Caustic, Lye

Chemical Formula: NaOH

Company: Kuehne Chemical Company, Inc.
86 North Hackensack Avenue
South Kearny, New Jersey 07032-4673
(973) 589-0700 Fax: (973) 589-4866

Manufacturer: In addition to Kuehne Chemical Company manufactured product, Kuehne Chemical Company also utilizes various suppliers for this product. For specific information concerning the manufacturer of this product please call the company phone number listed above.

Category 1

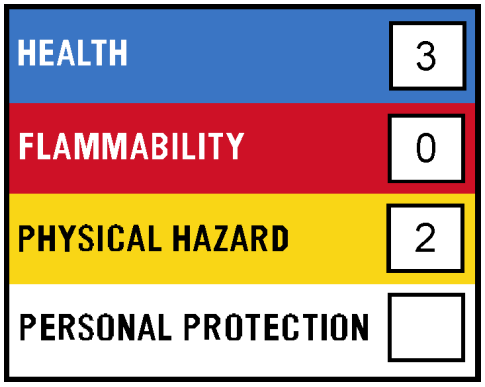
Symbol:

Signal Word: Danger

Corrosive to Metals	Category 1
Skin Corrosion	Category 1
Serious Eye Damage	Category 1
Respiratory Irritation	Category 3

Hazard Statements: H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

HMIS HAZARD RATINGS



Based on Nat'l Paint & Coatings Association HMIS system

NFPA HAZARD RATINGS

Chemical not listed. Ratings based on NFPA guidelines

Effects of Exposure

Acute: Inhalation – Exposure to vapor, mist or liquid can produce burns of the respiratory tract. Severe exposures could result in chemical pneumonia.

Eyes – Contact can cause severe damage including burns and blindness. The severity of the effects depend on concentration and how soon after exposure the eyes are washed.

Skin – Corrosive. Contact may cause burns and tissue destruction.

Ingestion – Severe burns and complete tissue perforation of the mucous membranes of mouth, throat, and stomach.

Chronic: No known effects.

Note: Irritation may follow an initial latency (delay between the time that the exposure occurs and when the sense of irritation starts). The latent period can vary as much as hours for a dilute solution (0.04%) to minutes with more concentrated solutions (25-50%). Prolonged or repeated contact, even to dilute concentrations, can cause a high degree of tissue destruction.

Appearance: Clear liquid.

Routes of Entry

Inhalation: Inhalation of caustic vapors or mist may be irritating to the respiratory tract.

Eye Contact: Eye contact may cause severe irritation and burns.

Skin: Skin contact may cause severe irritation and burns.

Ingestion: Corrosive. Severe burns and complete tissue perforation of the mucous membranes of mouth, throat, and stomach.

Target Organs: Eyes, Skin, Respiratory Tract, and Gastrointestinal Tract.

Sensitizing Capabilities: None known.

Reproductive Effects: None known.

Cancer Information: None known.

Synergistic Materials: None known.

Medical Conditions Aggravated by Exposure: None known.

SECTION 3 – COMPOSITION, INFORMATION OR INGREDIENTS

CAS Number	Name	Common Names
7732-18-5	Water	Water

Percentage	Exposure Limits
VOL: ND	PEL: Not Established
WT: 48.50 - 91	TLV: Not Established
	STEL: Not Established
	IDLH: Not Established

CAS Number	Name	Common Names
1310-73-2	Sodium Hydroxide (NaOH)	Caustic, Lye

Percentage	Exposure Limits
VOL: ND	PEL: 2 mg/m^3
WT: 9 - 51.50	TLV: 2 mg/m^3
	IDLH: 10 mg/m^3

Listed on: - The TSCA Inventory, or in compliance with the inventory.
- PA Requirement - 3% or greater.
- NJ Requirement - 1% or greater
- This product has not been listed as carcinogenic by the following agencies: IARC, NTP, and OSHA

CAS Number	Name	Common Names
7647-14-5	Sodium Chloride (NaCl)	Salt

Percentage	Exposure Limits
VOL: ND	PEL: Not established
WT: 0 - 1.30	TLV: Not established

Listed on: - TSCA Inventory, NJ Requirement - 1% or greater

CAS Number	Name	Common Names
7775-09-9	Chloric Acid, Sodium Salt	Sodium Chlorate

Percentage	Exposure Limits
VOL: ND	PEL: Not established
WT: 0 - 0.30	TLV: Not established

Listed on: - TSCA Inventory, PA Hazardous Substance, NJ Special Haz Substance

SECTION 4 – FIRST AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Skin: Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Continue to flush until medical attention arrives. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Ingestion: Do not induce vomiting. Rinse mouth and give water or milk if the person is conscious. If vomiting occurs, keep airway clear and give more water. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point:	Non-Flammable
Auto-ignition Temperature:	Non-Flammable
Flammable Limits in Air - % by Volume - Upper:	Non-Flammable
Lower:	Non-Flammable
Sensitivity to Mechanical Impact:	Not sensitive
Sensitivity to Static Discharge:	Not sensitive

Extinguishing Media

Non-Flammable/ Non-Combustible.

Fire Fighting Procedures

Wear NIOSH/MSHA approved positive-pressure self-contained breathing apparatus and full protective clothing.

Fire and Explosion Hazard

In water solution caustic can react with amphoteric metals (such as aluminum) generating hydrogen which is flammable and/or explosive when ignited. Direct contact with water can cause a violent exothermic reaction.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps to be Taken if Material is Released or Spilled
Evacuate unnecessary personnel. Follow protective measures provided under Personal Protection in Section 8.

Ventilation Requirements
Control airborne concentrations below the exposure guideline. Good general ventilation is sufficient for most operations. No special ventilation required under normal use.
NOTE: Where carbon monoxide may be generated, special ventilation may be required.

Where engineering controls are not feasible use adequate local exhaust ventilation wherever mist, spray or vapor may be generated.

Environmental Precautions
As per 40 CFR 302 Table 302.4 (CERCLA), environmental releases that exceed the RQ must be reported to the National Response Center by calling 800-424-8802 (202-426-2675) and the State Emergency Response Commission and the Local Emergency Planning Committee (40 CFR 355.40) as appropriate.

Contain liquids and prevent discharges to streams or sewers, control or stop the loss of volatile materials to the atmosphere. Large leaks may require environmental consideration and possible evacuation. Do not apply water to the leak. Spills or releases should be reported, if required, to the appropriate local, state and federal agencies.

Contain spill with dike to prevent entry into sewers or waterways.
CAUTION: This product may react strongly with acids and water.

Methods for Cleaning Up
Dry material can be shoveled up, liquid material can be removed with a vacuum truck. Neutralize remaining traces with any dilute inorganic acid (hydrochloric, sulfuric or acetic acid) Flush spill area with water followed by a liberal covering of sodium carbonate. All clean-up material should be removed for proper treatment or disposal. Spills on other than pavement (e.g. dirt or sand) may be handled by removing the affected soil and placing in approved containers.

SECTION 7 – HANDLING AND STORAGE

Handling Precautions

Avoid breathing mist or vapors in misty atmospheres, use an approved mist respirator. If respiratory irritation is experienced, use an approved air-purifying respirator. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI 2117.1).
Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full.
Do not get in eyes, on skin or clothing.
Do not take internally. Keep away from acids, to avoid possible violent reaction.
Wash contaminated clothing before reuse. Wash thoroughly after handling; exposure can cause burns that are not immediately painful or visible.

Wear personal protective equipment as described in Exposure Controls & Personal Protection (Section 8) of the SDS.

If product is added too rapidly, or without stirring, and becomes concentrated at bottom of mixing vessel, excessive heat may be generated, resulting in dangerous boiling and spattering, and a possible immediate and violent eruption of highly caustic solution.

Mixing Precautions: Considerable heat is generated when product is mixed with water. Therefore, when making solutions always carefully follow these steps:

ALWAYS wear the protective clothing described above. NEVER add water to product. ALWAYS add product, with constant stirring, slowly to surface of lukewarm (80-100ºF) water, to assure product is being completely dissolved as it is added.

Product can react EXPLOSIVELY with acids, aldehydes, and many other organic chemicals, add product VERY gradually, while stirring constantly. If product is added too rapidly, or without stirring, and becomes concentrated at bottom of mixing vessel, excessive heat may be generated, resulting in dangerous boiling and spattering, and a possible immediate and violent eruption of highly caustic solution.

ALWAYS empty and clean containers of all residues before adding product, to avoid possible EXPLOSIVE reaction between product and unknown residue.

Storage

Keep container tightly closed and properly labeled.
Dike storage containers to contain 110% of tank volume.
Under normal conditions, this product can be stored satisfactorily in mild steel without an interior lining. Aluminum is not recommended for storage and handling.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state, and DOT regulations. All residue should be removed from containers prior to disposal.
Avoid contact with aluminum, tin, zinc, and alloys containing these metals. Avoid contact with leather, wool, acids, organic halogen compounds and organic nitro compounds.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Specific Personal Protective Equipment

Respiratory: Respiratory protection is not required under normal use. Wear a NIOSH/MSHA approved respirator following manufacturer's recommendations, where airborne contaminants may occur.

Eye: Wear chemical safety goggles plus face shield to protect against splashing when appropriate (ANSI 287.1)

Gloves: Wear chemical resistant gloves such as rubber, neoprene or vinyl. Wash contaminated clothing and dry before reuse. Whenever there is a possibility of splash or contact wear a chemical resistant full body suit and boots.

Other: Standard work clothing closed at the neck and wrists. Discard shoes that cannot be decontaminated. Emergency shower and eyewash facility should be in close proximity (ANSI 2358.1)

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless, Clear liquid.

Odor: Odorless, No distinct odor.

Physical State: Liquid.

pH: 7.5% solution has pH 14.0.

Vapor Density: Not Applicable.

	Concentration – weight %				
	10	20	30	40	50
Boiling Point ºF (*C): (@760 mmHg)	230 (110)	235.4 (113)	246.2 (119)	264.2 (129)	291.2 (144)
Freezing/Melting Point: (ºF (*C))	14 (- 10)	26.6 (- 3)	68 (20)	59 (15)	53.6 (12)
Vapor Pressure: (mm Hg @140 ºF (60 *C))	135	110	76	46	13
Specific Gravity: (@60 ° F (15.6 *C))	1.11	1.22	1.33	1.43	1.53
Density: (lb/gal @60 ° F (15.6*C))	9.27	10.20	11.11	11.97	12.76

Solubility in Water: Completely Soluble.

Odor Threshold (ppm): Not available.

Evaporation Rate: Not known.

SECTION 10 – STABILITY AND REACTIVITY

Conditions Contributing to Instability
Stable, product absorbs water and carbon dioxide from the air.

Incompatibility
Product is corrosive to tin, aluminum, zinc and alloys containing these metals and will react with these metals in powder form. Also reacts with bronze and brass. Avoid contact with leather, wool, acids, organic halogen compounds, or organic nitro compounds. Hazardous carbon monoxide gas can form upon contact with reducing sugars, food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures.

Reacts With: Air, Water, Acids, Hydrocarbons, Aluminum and Other Metals
Under normal use and conditions, caustic is generally regarded as stable. However, caustic will rapidly attack and destroy such materials as leather, wool and the metals and the alloys of aluminum, zinc, and tin. The reaction with these metals may generate flammable hydrogen gas. The reaction of caustic with aluminum is particularly vigorous and contact should be avoided. Caustic soda is strongly alkaline and may react violently with acidic solutions. Caustic will also react vigorously with many organic chemicals.

Hazardous Decomposition Products: None.

Hazardous Polymerization: Will not occur.

Comments: Considerable heat is generated when caustic is diluted with water. Proper handling procedures must be followed to prevent vigorous boiling, spattering or violent eruption of the diluted solution.

SECTION 11 – TOXICOLOGICAL INFORMATION

CAS Number	Name	Common Names
1310-73-2	Sodium Hydroxide (NaOH)	Caustic, Lye

Acute Oral LD_{50}:	(rat)	2,000 mg/kg
Primary Skin Irritation:	(rabbit)	severe
Primary Eye Irritation:	(rabbit)	severe

CAS Number	Name	Common Names
7647-14-5	Sodium Chloride (NaCl)	Salt

Acute Oral LD_{50}:	(rat)	3000 mg/kg
Primary Skin Irritation:	(rabbit)	mild
Primary Eye Irritation:	(rabbit)	moderate

SECTION 12 – ECOLOGICAL INFORMATION

Aquatic Ecotox Data

Fish/Invertebrate:	LC_{50}	Pimephales promelas (fathead minnow)	10,610 mg/L
	LC_{50}	Daphnia magna (water flea)	4,571 mg/L
	EC_{50}	Daphnia magna (water flea)	100 ppm

Amphibians: No data available.

Plants: No data available.

Terrestrial Ecotox Data

Rat: LD_{50} (oral) 2,000 mg/Kg

Plants: No data available.

Environmental Fate Data

Plants: No data available.

BOD: NaOH has no biological oxygen demand.

Abiotic: No data available.

Biodegradation: This material is inorganic and not subject to biodegradation.

Persistence: This material is believed not to persist in the environment.

Bioconcentration: This material is not expected to bioconcentrate in organisms.

There is limited information available on the environmental fate and effects of sodium hydroxide (NaOH). Laboratory toxicity data indicate that NaOH is moderately toxic to aquatic and terrestrial organisms. The primary mode of action is due to the corrosive nature of this chemical and its tendency to increase pH in poorly buffered environments: Aquatic organisms become increasingly stressed as pH exceeds 9, with many aquatic species being intolerant of pH levels in excess of 10. Increased pH due to the introduction of NaOH into aquatic environments may lead to the precipitation of essential micronutrients. Exposed terrestrial species would be subject to skin irritation and burns due to the corrosive nature of this material. Due caution should be exercised to prevent the accidental release of this material to aquatic or terrestrial environments.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method
Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations.

Ensure that all responsible federal, state, and local agencies receive proper notification of spill and disposal methods.

Shipments of waste materials may be subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of each waste material and should be done by a competent and properly permitted contractor.

The materials resulting from clean-up operations may be hazardous wastes and, therefore, subject to specific regulations. Package, store, transport and dispose of all (clean-up) materials and any contaminated equipment in accordance with all applicable federal, state, and local regulations.

Product Disposal
Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts.

SECTION 14 – TRANSPORT INFORMATION

DOT Proper Shipping Name:	Sodium Hydroxide, Solution
DOT Hazard Class:	8
DOT ID Number:	UN1824
DOT Packing Group:	II
DOT Hazardous Substance:	RQ 1,000 Lb. (Sodium Hydroxide)
DOT Marine Pollutant:	Not Applicable
Additional Description:	Not Applicable

SECTION 15 – REGULATORY INFORMATION

U.S. Federal Regulations

OSHA: Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records.

To aid our customers in complying with regulatory requirements, SARA Title III Hazard Categories for this product are indicated below. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40.CFR.370. Please consult those regulations for details.

TSCA (Toxic Substances Control Act): All components of this product that are required to be on the TSCA inventory are listed on the inventory.

CERCLA and SARA/Title III:

Hazard Categories	Immediate (Acute) Health:	YES
	Reactive Hazard:	YES
	Delayed (Chronic) Health:	NO
	Fire Hazard:	NO
	Sudden Release of Pressure:	NO

Other Regulations/Standards

NSF Certification: This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60

SECTION 16 – OTHER INFORMATION

Product Use: Metal Finishing & Industrial Cleaners, Chemical & Petroleum Processing

Prepared By: Kuehne Company's Health, Safety, Environmental & Security Department Revision D – 6 June 2022

For additional non-emergency health, safety or environmental information, telephone: (973) 589 - 0700 or write to:

Kuehne Chemical Company, Inc.
86 N. Hackensack Avenue
South Kearny, New Jersey 07032-4673

SDS Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service Registry Number
CEILING	Ceiling Limit (15 Minutes)
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
STEL	Short Term Exposure Limit (15 Minutes)
TLV	Threshold Limit Value (ACGIH)
TWA	Time Weighted Average (8 Hours)

IMPORTANT: The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations.

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge.
NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, OR OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE.

This information is not intended to be all-inclusive as to the manner and conditions of handling and storage. Other factors may involve other or use additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

No warranty of any kind is given or implied and Kuehne Chemical Company, Inc. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

This Safety Data Sheet (SDS) covers the following materials:

Caustic Soda - Liquid: All grades

REFERENCES:

- American National Standard, Z400.1-1993
- Pamphlet 94 Sodium Hydroxide Solution and Potassium Hydroxide Solution (Caustic) Storage Equipment and Piping Systems Edition 5 January 2018
- Pamphlet 164 Reactivity and Compatibility of Chlorine and Sodium Hydroxide with Various Materials Edition 2 Revision 3 May 2017
- National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, 1994.
- Supplier's Safety Data Sheets
- Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

WARNING LABEL INFORMATION

Active Ingredient: Sodium Hydroxide (NaOH)..... 09 - 51.50 % (by weight)
Other Ingredients..... 48.50 - 91 %

Total..... 100.0 %

KEEP OUT OF REACH OF CHILDREN

DANGER

Category 1

Symbol:

Signal Word: Danger

Hazard Statements: May be corrosive to metals
Causes severe skin burns and eye damage
Causes severe eye damage

FIRST AID

IF INHALED: Move to fresh air. If breathing is difficult, have trained person administer oxygen. If person is not breathing, call 911 or an ambulance and give mouth-to-mouth resuscitation. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

IF IN EYES: IMMEDIATELY FLUSH EYES WITH A GENTLE DIRECTED STREAM OF WATER for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

IF ON SKIN OR CLOTHING: Flush thoroughly with cool water under shower for at least 15 minutes, while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

IF SWALLOWED: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. If able to swallow. If vomiting occurs spontaneously, keep airway clear and give more water. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

NOTE TO PHYSICIAN: No specialized procedures. Treat for clinical symptoms.

HOT LINE NUMBER: 1-800-POISON-1

Have product container or label with you when calling a poison control center or doctor, or going for treatment.

PRECAUTIONARY STATEMENTS
HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER: MAY CAUSE BURNS TO THE EYES, SKIN, AND MUCOUS MEMBRANES. MAY CAUSE PERMANENT EYE DAMAGE. INHALATION OF DUST, MIST, OR SPRAY CAN CAUSE SEVERE LUNG DAMAGE. CAN REACT VIOLENTLY WITH WATER, ACIDS AND OTHER SUBSTANCES. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible.

Precautions: Avoid contact with eyes, skin and clothing. Avoid breathing dust, vapors or mist. Do not swallow. Use with adequate ventilation and wear respiratory protection when exposure to dust, mist or spray is possible. Wear safety glasses with side shields or chemical splash goggles, protective clothing and chemical resistant gloves. Wash thoroughly after handling; exposure can cause burns that are not immediately painful or visible. Keep container tightly closed and properly labeled.

Product can react violently with water, acids and other substances. See Handling and Storage (Section 7) of the SDS for instructions before using. Avoid contact with aluminum, tin, zinc, and alloys containing these metals. Avoid contact with leather, wool, acids, organic halogen compounds and organic nitro compounds. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI 2117.1).

CAUTION: This product may react strongly with acids and water. Scoop or sweep up all spilled product and other contaminated material and place in marked disposal containers. Neutralize residue with dilute acid and flush spill area with water followed by a liberal covering of sodium carbonate. Dispose of wash water and spill by-products according to federal, state and local regulations.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

Considerable heat is generated when product is mixed with water. Therefore, when making solutions always carefully follow these steps:

Always wear protective clothing. Never add water to product. Always add product, with constant stirring, slowly to surface of lukewarm (80-100 ^{o}F) water, to assure product is being completely dissolved as it is added.

Product can react explosively with acids, aldehydes, and many other organic chemicals, add product very gradually, while stirring constantly. If product is added too rapidly, or without stirring, and becomes concentrated at bottom of mixing vessel, excessive heat may be generated, resulting in dangerous boiling and spattering, and a possible immediate and violent eruption of highly caustic solution. Always empty and clean containers of all residues before adding product, to avoid possible explosive reaction between product and unknown residue.

STORAGE AND DISPOSAL

A spill or release of this material may trigger the emergency release reporting requirements under SARA, Title III (40 CFR, Part 355) and/or CERCLA (40 CFR, Part 300). State or local reporting

requirements may differ from federal requirements. Consult counsel for further guidance on your responsibilities under these laws.

Material that cannot be reused or chemically reprocessed should be disposed of in a manner meeting government regulations.

Always package, store, transport and dispose of all waste and contaminated equipment in accordance with all applicable federal, state, and local health and environmental regulations.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state, and DOT regulations. All residue should be removed from containers prior to disposal.

Containers that have been emptied, will retain product residue and vapor and should be handled as if they were full.

IN CASE OF

FIRE: Material does not burn. Use extinguishing medium as appropriate for surrounding fire.

SPILL: Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 1000 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

State and local regulations may have additional reporting requirements, check with the proper state and local authorities. Wear neoprene or rubber gloves.

IN CASE OF CHEMICAL EMERGENCIES CALL:

24 HOUR EMERGENCY PHONE (973) 589-0700

Alt. (551) 200-2751

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.

Poly-Solv 01

Polymer Residual Cleaner

Designed to loosen and remove polymer accumulations on process equipment and work areas. A unique blend of detergents, emulsifiers, and multi-component surfactants that will rapidly break the cohesive bond between polymer molecules and the surface to which they adhere. Can be used on belt press belts, screw presses, polymer makeup tanks, floors, stairs – anyplace where slippery polymer residuals present a problem.

Benefits of using Poly-Solv 01 in your polymer areas:

- Quickly clean up drips and spills before they become a slipping hazard.
- Easily cleans tools used to work on polymer blending units.
- Removes polymer residuals trapped in belt filter cloths, gravity belts, screw presses, and other solids processing equipment.
- Increases equipment performance saving you money.
- Keep slipping hazards to a minimum; keep your employees safe.

Poly-Solv 01 FAQ's

Is Poly-Solv 01 harmful to my equipment?
No, it's not. Poly-Solv 01 contains no acids or ammonias. It has been extensively tested, and formulated not to harm plastics, metals, or masonry. As with all cleaning products, you should pretest a small area to make sure that no damage occurs. See SDS for recommended personal protection equipment.

What is the easiest way to clean our belt filter press?
Use a small metering pump to inject Poly-Solv 01 into the belt press wash water. Activate when performing washdown to keep your belts in clean optimum condition. We've seen many instances when belts were changed, when all they really needed was a good cleaning. Contact us for help in sizing and setting up a metering pump. Regular use of Poly-Solv 01 will extend the life of your belts and save you money.

How do I use it in a screw press?
Depending on the layout of your particular press, for the first cleaning spray screw areas liberly with a 1/1 ratio of Poly-Solv 01 and water. Let it sit for 10 – 20 minutes, and initiate the washdown cycle. After initial cleaning a 1/5 ratio may be used. As with belt presses, injection into the wash water is the easiest method of application.

Can I use it in a centrifuge?
Yes, you can. Over time polymer residuals will build up in the centrifuge bowl. Periodic cleaning will remove these deposits and increase performance. The easiest method is to feed straight Poly-Solv 01 through your polymer blending unit's calibration column, through the blending unit, and into the centrifuge. In a dirty centrifuge you will see polymer residuals and sludge deposits come off in the centrate water. Run until centrate is clean.

Can I use it to flush polymer blending units?
Yes, you can, although we have another product, **Poly-Solv 02™**, designed specifically for this application which is more effective. If using Poly-Solv 01 do not dilute. Pour into calibration column and feed into metering pump. After product has been fed, use mineral oil to flush cleaner out of the system as residual will affect polymer. Use our **Poly-Solv 02™** for an easier more effective way to flush your blending unit.

What size containers is it offered in?
You can purchase it in 1-gallon jugs (case of 4), 5-gallon pails, or 55-gallon drums.

Directions for use:

These are general guidelines. Please call for assistance.

Spills and Drips :
Remove free flowing liquid with rags or absorbent material. Apply liberally to polymer residuals and allow to sit for 10 – 20 minutes. Agitate with a cleaning rag or stiff brush to completely break up the film, then flush away with water. For heavy, dried on residuals, you may need to repeat for complete cleanup.

Belt Presses/Thickeners/Screw Presses:
For *first time cleaning* use a 1/1 ratio of Poly-Solv 01 and water mixed in a spray applicator. Turn off wash water and spray the belts liberally until fully covered. Poly-Solv has a blue tint to help you see which areas have been covered. Let sit for 10-20 minutes. Turn on wash water and cycle belts. Your belts will be clean and more efficient. After initial cleaning you may repeat this procedure using a 1/5 ratio of Poly-Solv 01 and water weekly. To make this task super easy a small metering pump can be installed to inject Poly-Solv 01 into the belt wash water. It can then be activated during the washdown cycle. Contact Clean Waters for help in sizing a pump and feed rate.

Tools and Pumps
We've all been there. You've been working on a polymer pump and now your tools are covered. Just spray them down with straight Poly-Solv 01, let them sit for a bit, and wash them off. When rebuilding a polymer pump, soak the fittings in Poly-Solv 01 to make cleaning and reassembly a snap.

Clean Waters Inc. provides specialty chemicals and services to water treatment and wasterwater treatment facilities, as well as commercial locations.

We take great pride in being a superior company, supplying the utmost quality chemicals and services.

CLEANWATERS INC.

26808 County Rt. 3, Plessis, NY 13675 • (315) 482-3787

cleanwaters.us

MADE IN THE USA

Poly-Solv 02™

Polymer Blending Unit System Flush

Specifically designed for flushing liquid/emulsion polymer blending units. A unique blend of mineral oils, detergents, and surfactants that will keep your blending unit performing at peak capacity. Over time polymer will leave deposits in blending units' internal components. These deposits will inhibit pumping and mixing, reducing the effectiveness of the polymer, costing you more money.

Benefits of incorporating Poly-Solv 02™ into your blending unit preventive maintenance program:

- Reduced Maintenance.
- Less Downtime.
- More effective polymer mixing - reducing polymer consumption.
- Easier startup.
- Fewer pumping issues.
- Lubricates and extends the life of wear items in polymer feed pumps.

Poly-Solv 02™ FAQ's

How do you use Poly-Solv 02™?
Most polymer blending units have a calibration column to verify polymer dose. Pouring Poly-Solv 02™ into the calibration column is the easiest method of introducing it into your system. The non-toxic dye will visually let you know when the unit has been saturated. For systems without a calibration column you may put a "T" in your polymer feed line with a valve. This will allow you to feed Poly-Solv 02™ directly into the polymer feed pump. Give us a call; we can give you guidance to help you easily modify your system.

Is it safe for my system?
This product contains no caustics, no acids, no solvents, and has a neutral pH. It has been tested for compatibility with plastics, glass, and metals. It will not harm your blending unit. It will however lubricate and protect wear parts, reducing pump rebuilds.

Can I recirculate Poly-Solv 02™ in my blending unit?
Yes, you certainly can; however, it is not recommended. Recirculation usually requires modification of the blending unit. Poly-Solv 02™ will clean your unit without the hassle of recirculation. Also, recirculation will require you to use a lot of product; it is not necessary. For best results run Poly-Solv 02™ through your unit before a shutdown period. The longer it can stay in the system the better it will work. Overnight is good; over the weekend is great.

What size containers is it offered in?
You can purchase it in 1-gallon jugs (case of 4), 5 gallon pails, or 55-gallon drums.

Would Poly-Solv 02™ be good for storing an emulsion feed system?
Absolutely! Running Poly-Solv 02™ through the unit before storage will ensure an easy startup the next time that you need it. Polymer deposits will dissolve, and pump wear parts will be lubricated. It will also prevent moisture from entering the system.

Is there any reason that I shouldn't use this product?
Yes. If you enjoy difficult startups, and rebuilding polymer pumps don't buy it. But seriously. . . the cost of 1 pail of Poly-Solv 02™ is much less than most polymer pump rebuild kits. That alone will justify the cost. When you factor in the increased mixing performance of a clean blending unit, this product will save you money. And you also have the confidence of our guarantee. ***If this product does not work for you we will issue a 100% refund.*** Give it a try; you'll be glad that you did!

Directions for use:

(Each blending unit is different; these are general guidelines. Call for assistance.)

First time application:

Fill blending unit calibration column with Poly-Solv 02™. Shut off polymer supply and open calibration column valve. Allow pump to run long enough to fully saturate blending unit. Shut off pump and leave overnight. Poly-Solv 02™ will dissolve buildups. For best results repeat daily for a period as it will take several applications to initially clean the unit.

Maintenance:

After the blending unit has been fully cleaned, Poly-Solv 02™ may be used weekly to maintain the unit. It is best to perform this before a weekend or other extended shutdown. If you process solids daily, a biweekly maintenance program is very beneficial. When rebuilding polymer pumps, soak fittings overnight in Poly-Solv 02™. This will soften deposits and make cleaning much easier. If shutting down a blending unit for an extended period be sure to run Poly-Solv 02™ in it first. Leave the product in the unit until startup. This will make startups MUCH easier!

Poly-Solv 02™ is not designed for cleanup of polymer spills. For spills use our Poly-Solv 01.

MADE IN THE USA

Clean Waters Inc. provides specialty chemicals and services to water treatment and wasterwater treatment facilities, as well as commercial locations.

We take great pride in being a superior company, supplying the utmost quality chemicals and services.

CLEANWATERS INC.

26808 County Rt. 3, Plessis, NY 13675 • (315) 482-3787

cleanwaters.us

BFI-777

BIOLOGICAL FOAM CONTROL

BFI-777 IS A DEFOAMER WHICH IS EXTREMELY EFFECTIVE ON BIOLOGICAL FOAM FOUND IN DIGESTORS, EQUALIZATION BASINS, FLUMES, AND EFFLUENT OUTFALL. BFI-777 CONTAINS NO LIQUID HYDROCARBONS WHICH CAUSE OILY SHEEN ON RIVER OUTFALL.

RECOMMENDED USAGE LEVELS

FOR OUTFALL APPLICATIONS, TYPICAL SUMMERTIME DOSAGES OF BFI-777 MAY RANGE FROM 0.5 TO 10 PPM BASED ON THE LOADING OF THE SYSTEM. DOSAGES IN THE WINTER MONTHS WILL INCREASE BASED ON LIKELY GREATER FOAMING TENDENCIES OF THE EFFLUENT – TYPICAL DOSAGES WILL RANGE FROM 1 TO 20 PPM. SUMBERGED DISCHARGE CONFIGURATIONS WILL EXHIBIT DECREASED FOAMING COMPARED TO TRADITIONAL FREE-FALL ARRANGEMENTS.

FOR FLUMES AND EQUALIZATION BASINS, DOSAGES MAY RANGE FROM 30 TO 100 PPM BASED ON THE ORGANIC LOADING OF THE INCOMING WASTEWATER.

THE PRODUCT MAY BE METERED ON A CONTINOUS BASIS OR ADDED ON A BATCH PROCESS. FOAM-A-TAC 803 MAY BE USED "AS-IS" OR DILUTED WITH WATER PRIOR TO USE.

STORAGE AND HANDLING

THIS PRODUCT WILL NOT SEPARATE UPON STORAGE AND DOES NOT REQUIRE STIRRING PRIOR TO USE. SHELF LIFE OF THIS PRODUCT IS GREATER THAN ONE YEAR. PROTECT FROM MOSITURE AND FOREIGN MATERIALS. PROLONGED OR REPEATED CONTACT MAY CAUSE EYE OR SKIN IRRITATION. DO NOT TAKE INTERNALLY. PRODUCT WILL FREEZE – STORE ABOVE 50°F.

SHIPPING

BFI-777 IS A NON HAZARDOUS PRODUCT AND IS NOT REGULATED BY THE DEPARTMENT OF TRANSPORTATION. FOAM-A-TAC 803 IS SHIPPED IN BULK, 275 GALLON RETURNABLE TOTES, 55 GALLON RETURNABLE DRUMS AND 5 GALLON PAILS.

PRODUCT SAFETY INFORMATION

ALTHOUGH NO SPECIAL PRECAUTIONS ARE REQUIRED, ANYONE PROCURING, USING OR DISPOSING OF THIS PRODUCT OR THEIR CONTAINERS MUST BE FAMILIAR WITH THE APPROPRIATE SAFETY AND HANDLING PRECAUTIONS. SUCH INFORMATION MAY BE FOUND IN THE MATERIAL SAFETY DATA SHEETS FOR THIS PRODUCT. IN THE EVENT OF AN EMERGENCY WITH THIS PRODUCT, CALL THE 24 HOUR CHEMTREC HOTLINE 1-800-424-9300.

Clean Waters, Inc. 26808 County Route 3 Plessis, NY 13675 (315)482-3787

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

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.

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

Specific Gravity: 1.05

Evaporation Rate(water=1): N/A

Vapor Density(air=1) : N/A

Flash Point : None

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

pH (1%): > 10

Boiling Point (°F) : 212+

% Volatile: N/A

Vapor Pressure(mmHg): N/A

Flash Point Method Used: 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.

SAFETY DATA SHEET

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.

SAFETY DATA SHEET

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.

SAFETY DATA SHEET

Product Name : Poly Solv 02 **Date Issued : August 8, 2018**

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: Poly Solv 02
Formula : Multi-component mixture
Chemical Synonym / C# : c1284D
Chemical Family: Solvent cleaner

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
OSHA Hazard Communication Standard : This product has been evaluated and classified as defined by OSHA Hazard Communication Standard, 29CFR 1910.1200.
GHS Classification :
Aspiration Hazard (Category 1)
Signal Word : Danger

GHS Hazard Pictograms : Health Hazard
Hazard Statements :
H304 May be fatal if swallowed and enters airways
Precautionary Statements :
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.
P301 + P310 + P330 + P331 IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P302 + P350 +P362 IF ON SKIN: Gently wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.
P304 + P310 + P330 + P340 IF INHALED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. 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.
P337 + P313 IF eye irritation persists: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification :
Defatting to the skin.
See Section 11 for Potential Health Hazards

SAFETY DATA SHEET

Product Name : Poly Solv 02 **Date Issued : August 8, 2018**

SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	CAS #	% (w/w)
Petroleum Hydrocarbon Oil	64742-46-7	90 - 100

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 eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Skin Contact: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Notes to physician : If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. Treat symptomatically and supportively.
Notes to emergency responders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5 : FIRE FIGHTING MEASURES

Extinguishing Media: Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog). Do not use water jet.
Fire Fighting Procedures: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Unusual Fire and Explosion Hazards: In a fire or if heated, a pressure increase will occur and the container may burst.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Steps to be taken in case material is released or spilled:
Small Spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large Spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7 : HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Storage Requirements: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Hazardous Ingredient	ACGIH TLV (mg/m3) TWA	ACGIH TLV (mg/m3) STEL
Petroleum Hydrocarbon Oil	5	10 (mist)

Engineering measures :

Ventilation / Local Exhaust : Good general ventilation at source of vapor should be sufficient to control worker exposure to airborne contaminants.

Ventilation / Mechanical Recommendations: Ventilate as needed to comply with exposure limit. Mechanical ventilation is recommended.

Personal protective equipment :

Respiratory Protection: Use a properly fitted, air-purifying or supplied-air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin Protection: (hand protection) Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.

(body protection) Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

(other protection) Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye Protection: Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance / Odor: Clear, blue liquid, odor nil.

Water Solubility: Insoluble
pH (100%): N/A
Specific Gravity: 0.82 - 0.84
Boiling Point (°F) : 350
Evaporation Rate(water=1): not available
% Volatile: nil
Vapor Density(air=1) : not available
Vapor Pressure(mmHg): 0.0
Flash Point : 285
Flash Point Method Used: COC
Flammable Limits: LEL = not available **UEL =** not available

SECTION 10 : STABILITY AND REACTIVITY

Hazardous Decomposition Products: May release COx, smoke and irritating vapors when heated to decomposition.

Chemical Stability: Stable under normal temperatures and pressures.

Reactivity : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

Conditions to Avoid: None known

Incompatibility with other Substances: Reactive with oxidizing agents.

Hazardous Polymerization: Will not occur.

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicological Data / Potential Health Hazards (as Petroleum Hydrocarbon Oil):

Acute Toxicity/Effects

Oral LD50 rat = >5000 mg/kg
Dermal LD50 rabbit = > 2000 mg/kg
Inhalation LC50 = 4.6 - 7.64 mg/L 4HR, Aerosolized

Potential Acute Health Effects:

Eye Contact: May cause minimal to slight eye irritation if product is splashed in eyes and unwashed.

Skin Contact: May cause very slight transient reversible skin irritation if unwashed. May cause slight redness and swelling.

Inhalation: An inhalation hazard may only arise if product is used in aerosol conditions or if heated up. If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and upper respiratory tract. Based on data from similar materials.

Sensitization: Not expected to cause skin or respiratory sensitization.

Aspiration Hazards: If Swallowed can be aspirated into lungs and cause chemical pneumonia, varying degrees of pulminary injury or death. If swallowed, do not induce vomiting.

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

Carcinogenicity: This product contains mineral oils which are considered to be severly refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Reproductive toxicity : No data available to indicate either product or any components present at greater than 0.1% may cause reproductive toxicity.

Teratogenicity : No data available to indicate either product or any components present at greater than 0.1% may cause birth defects.

Chronic effects : No data available to indicate product or components at greater than 1% are chronic health hazards.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicological Information (as Petroleum Hydrocarbon Oil):

Toxicity :

Aquatic Vertebrates, LL50 (96HR) WAF = > 750 mg/L
Daphnia Magna, (7 day) EL50 WAF = not available
Daphnia Magna, (21 day) EL50 WAF = not available

Persistence and degradability : Readily degraded, and will not persist in the aquatic environment. It is therefore not expected to cause short-term toxicity to aquatic organisms. Since this material has a low solubility in water, chronic toxicity is not expected.

Bioaccumulative potential : Not available.

Mobility in Soil : Not available.

Other adverse effects : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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 (slightly combustible liquid NOIBN)

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 - 40 CFR 302.4(a) :

Component	RQ (lbs)
none listed	

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (800) 424-8802 and to your Local Emergency Planning Committee.

SARA 302 Components - 40 CFR 355 Appendix A

Section 302 Component(s)	TPQ (lbs)	RQ (lbs)
None		

SARA 311/312 Classification - 40 CFR 370.2 :

(as Petroleum Hydrocarbon Oil) : Acute Hazard

SARA 313 Components - 40 CFR 372.65:

Section 313 Component(s)	CAS #	%
None		

INTERNATIONAL REGULATIONS :

International Inventories :
EU Inventory : present
Japan : not available
Auatrailia : present
New Zealand : present
Canada : present
Switzerland : not available
Korea : present
Philippines : not available
China : present
Taiwan NECI : present

STATE REGULATIONS :

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

Other Regulations / Legislation which apply to this product: none known

SECTION 16 : OTHER INFORMATION

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

Revision Date : August 8, 2018

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.

BFI-777

BIOLOGICAL FOAM CONTROL

BFI-777 IS A DEFOAMER WHICH IS EXTREMELY EFFECTIVE ON BIOLOGICAL FOAM FOUND IN DIGESTORS, EQUALIZATION BASINS, FLUMES, AND EFFLUENT OUTFALL. BFI-777 CONTAINS NO LIQUID HYDROCARBONS WHICH CAUSE OILY SHEEN ON RIVER OUTFALL.

RECOMMENDED USAGE LEVELS

FOR OUTFALL APPLICATIONS, TYPICAL SUMMERTIME DOSAGES OF BFI-777 MAY RANGE FROM 0.5 TO 10 PPM BASED ON THE LOADING OF THE SYSTEM. DOSAGES IN THE WINTER MONTHS WILL INCREASE BASED ON LIKELY GREATER FOAMING TENDENCIES OF THE EFFLUENT – TYPICAL DOSAGES WILL RANGE FROM 1 TO 20 PPM. SUMBERGED DISCHARGE CONFIGURATIONS WILL EXHIBIT DECREASED FOAMING COMPARED TO TRADITIONAL FREE-FALL ARRANGEMENTS.

FOR FLUMES AND EQUALIZATION BASINS, DOSAGES MAY RANGE FROM 30 TO 100 PPM BASED ON THE ORGANIC LOADING OF THE INCOMING WASTEWATER.

THE PRODUCT MAY BE METERED ON A CONTINOUS BASIS OR ADDED ON A BATCH PROCESS. FOAM-A-TAC 803 MAY BE USED "AS-IS" OR DILUTED WITH WATER PRIOR TO USE.

STORAGE AND HANDLING

THIS PRODUCT WILL NOT SEPARATE UPON STORAGE AND DOES NOT REQUIRE STIRRING PRIOR TO USE. SHELF LIFE OF THIS PRODUCT IS GREATER THAN ONE YEAR. PROTECT FROM MOSITURE AND FOREIGN MATERIALS. PROLONGED OR REPEATED CONTACT MAY CAUSE EYE OR SKIN IRRITATION. DO NOT TAKE INTERNALLY. PRODUCT WILL FREEZE – STORE ABOVE 50°F.

SHIPPING

BFI-777 IS A NON HAZARDOUS PRODUCT AND IS NOT REGULATED BY THE DEPARTMENT OF TRANSPORTATION. FOAM-A-TAC 803 IS SHIPPED IN BULK, 275 GALLON RETURNABLE TOTES, 55 GALLON RETURNABLE DRUMS AND 5 GALLON PAILS.

PRODUCT SAFETY INFORMATION

ALTHOUGH NO SPECIAL PRECAUTIONS ARE REQUIRED, ANYONE PROCURING, USING OR DISPOSING OF THIS PRODUCT OR THEIR CONTAINERS MUST BE FAMILIAR WITH THE APPROPRIATE SAFETY AND HANDLING PRECAUTIONS. SUCH INFORMATION MAY BE FOUND IN THE MATERIAL SAFETY DATA SHEETS FOR THIS PRODUCT. IN THE EVENT OF AN EMERGENCY WITH THIS PRODUCT, CALL THE 24 HOUR CHEMTREC HOTLINE 1-800-424-9300.

ALL STATEMENTS, INFORMATION AND DATA GIVEN HEREIN ARE BELIEVED TO BE ACCURATE AND RELIABLE BUT ARE PRESENTED WITHOUT GUARANTY, WARRANTY, OR RESPONSIBILITY OF ANY KIND, EXPRESSED OR IMPLIED. STATEMENTS OR SUGGESTIONS CONCERNING THE POSSIBLE USES OF OUR PRODUCTS ARE MADE WITHOUT REPRESENTATION OR WARRANTY THAT ANY SUCH USE IS FREE OF PATENT INFRINGEMENT, AND WE ARE NOT RECOMMENDING TO INFRINGE ANY PATENTS.

Clean Waters, Inc. 26808 County Route 3 Plessis, NY 13675 (315)482-3787

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: 12/31/2021 Supersedes: 01/04/2021 Version: 5.0

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	:	800-704-9215
International	:	+1-360-256-7365

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 : 12/31/2021

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

Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
STRUVICIDE™ Soak	

Item # INGCSVWWXSTSOATT01

Section I: Product and Company Identification

Manufacturer's Name Grignard Company LLC	24 hour Emergency Telephone Contact Number CHEMTREC Domestic North America: **800-424-9300**
Address *(Number, Street, City, State, and ZIP Code)* 505 Capobianco Plaza Rahway, NJ 07065	**Telephone Number for Information** 732-340-1111
Date Prepared September, 2018	**Date Updated** August, 2022

Section II: Hazard(s) Identification

Hazardous Components (Specific Chemical Identity; Common Name(s)) 	**OSHA PEL**	**ACGIH TLV**	**Other Limits Recommended**
Hydrochloric Acid CAS#7647-01-0			
Routes of Exposure: Eye contact, Skin Contact, Ingestion, Inhalation			
Health Hazards *(Acute and Chronic)* **Hazard Statements –** H303: May be harmful if swallowed H314: Causes severe skin burns and eye damage when exposed for > 3 minutes to 60 minutes H335: May cause respiratory irritation **Precautionary Statements –** **P280:** Wear protective gloves and eye protection **P281:** Use personal protective equipment as required			
Signs and Symptoms of Exposure None known			
Medical Conditions Generally Aggravated by Exposure Not known			

STRUVICIDE™ Soak

Section III – Composition / Information on Ingredients

CAS	Ingredient Name	% by Weight
7647-01-0	Hydrochloric Acid	5 – 7
Proprietary	Non-Hazardous Components	93 - 95

Grignard Company LLC withholds the specific chemical identity and/or exact percentages of the composition of our products due to this information being a part of our Intellectual Property.

Section IV: First Aid Measures

Eyes: Flush eyes with water for at least 15 minutes. If irritation persists, seek medical assistance
Skin: Wash contact areas with soap and water. Take off contaminated clothing. Seek medical attention if irritation persists.
Inhalation: Move victim to fresh air. If symptoms persist, get medical attention.
Ingestion: Do NOT induce vomiting. Seek medical attention.

Section V: Fire – Fighting Measures

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Not flammable	N/A	N/A	N/A

Extinguishing Media
Use water fog, foam, CO_2 or dry chemical powder.

Special Fire Fighting Procedures
Wear self-contained breathing apparatus and full protective clothing

Unusual Fire and Explosion Hazards
None

Section VI: Accidental Release Measures

Personal Precautions:
Isolate area. Keep unnecessary personnel away.

Environmental precautions:
Prevent further leakage or spillage if safe to do so.

Method for Clean Up:
Small spills: Rinse area with copious amounts of water to dilute. Sodium bicarbonate may also be used to absorb/neutralize liquid. Place into well labelled container for later disposal.
Large Spills: Dike area to contain spill

STRUVICIDE™ Soak

Section VII: Handling and Storage

Handling Avoid contact with skin and eyes. Wash hands thoroughly after handling.
Storing Store in a cool and dry place in closed containers. Keep in a well-ventilated place.

Section VIII: Exposure Controls/Personal Protection

Respiratory Protection ***(Specify Type)*** None required under normal operating conditions. If ventilation is not sufficient to effectively prevent buildup of aerosols, appropriate NIOSH/MSHA respiratory protection must be provided.		
Ventilation General	**Local Exhaust**	**Special**
	Mechanical ***(General)***	**Other**
Protective Gloves Chemical resistant gloves	**Eye Protection** Chemical goggles	
Other Protective Clothing or Equipment Suitable protective clothing.		
Work/Hygienic Practices: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking		

Section IX: Physical and Chemical Properties

Boiling Point	N/A	**Specific Gravity (H_2O = 1)**	1.05 – 1.07
Vapor Pressure (mm Hg.)	N/A	**pH**	< 2.0
Vapor Density (AIR = 1)	N/A	**Evaporation Rate (Butyl Acetate = 1)**	N/A
Solubility in Water: Complete			
Physical State: Liquid			
Appearance: Clear, Yellow liquid			
Odor: Slight Acidic			

STRUVICIDE™ Soak

Section X: Stability and Reactivity

Stability:	Stable	**Hazardous Polymerization:**	Will Not Occur
Incompatibility (Materials to Avoid): Strong alkalis, oxidizing agents			
Conditions to Avoid: Extreme temperatures, Contact with incompatible materials			
Possibility of Hazardous Reactions: Will not occur			
Hazardous Decomposition Products: Carbon oxides, chlorine			

Section XI: Toxicological Information

No toxicity tests have been carried out for this product. Acute toxicity data was determined based on toxicity of individual components contained for this product

Acute oral toxicity: May result in gastrointestinal irritation
Acute inhalation: May cause irritation to upper respiratory tract.
Acute dermal toxicity: Not been determined
Skin irritation: Prolonged contact may cause burns
Eye irritation: May cause severe eye irritation

Carcinogenicity/Other Information:
None of the components are listed by: **NTP, IARC, ACGIH, OSHA**

Section XII: Ecological Information

Toxicity: May affect aquatic organisms if it lowers aquatic system pH < 5
Biodegradability: Not applicable
Bio-accumulative potential: Not expected
Other Adverse Effects: Not available

Section XIII: Disposal Considerations

Disposal Recommendations: Disposal must be in accordance with current applicable laws and regulations. Pure dissolved material is calcium chloride when used as directed.

STRUVICIDE™ Soak

Section XIV: Transportation

Land (DOT): UN1789, Hydrochloric Acid, 8, II
Land (TDG): UN1789, Hydrochloric Acid, 8, II
Sea (IMDG): UN1789, Hydrochloric Acid, 8, II
Air (IATA): UN1789, Hydrochloric Acid, 8, II

Section XV: Regulatory Information

OSHA Hazard Communication Standard: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.
EPCRA: This material contains no extremely hazardous substances.
SARA (311/312) Reportable Hazard Categories: Acute health hazard, Chronic health hazard
SARA (313) Toxic Release Inventory: This material contains no chemicals that are subject to the reporting requirements of the SARA 313 Toxic Release Program
The Following Ingredients are Cited on the Lists Below: None

Section XVI: Other Information

Other Special Considerations: None

Disclaimer: This information is to the best of our knowledge and belief, accurate and reliable as of the date complied. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.