Illinois Power Generating Company
1500 Eastport Plaza Drive
Collinsville, IL 62234

1/27/2026

Illinois Environmental Protection Agency
Bureau of Land – MC #33
Attn: Part 845 Coal Combustion Residual Rule Submittal
2520 West Iles Avenue
Springfield, IL 62794

Re: Newton Power Plant Primary Ash Pond
Log No. 2021-505; Site ID 798080001; Unit ID W0798070001-01
Supplement to Closure Permit Application – Water Treatment Permit Application

Please find attached a copy of the Water Pollution Control Permit Application submitted to IEPA Bureau of Water on November 25, 2025. The application seeks authorization to construct treatment works associated with Illinois Power Generating Company's (IPGC) Primary Ash Pond (PAP) located at the Newton Power Plant. A copy of the application is being provided as a supplement to the Revised Closure Plan for the PAP submitted on April 11, 2025.

Should you have any questions or comments regarding the above responses, please contact Rhys Fuller at rhys.fuller@vistracorp.com or (618) 975-1799.

Sincerely,

Phil Morris, P.E.
Sr. Director, Environmental

Kent Schafer
Illinois Power Generating Company
Newton Power Station
Luminant
1500 Eastport Plaza Drive
Collinsville, IL 62234-6135

November 12, 2025

Mr. Darin LeCrone, P.E.
Manager, Industrial Unit
Bureau of Water, Division of Water Pollution Control, Permits Section
Illinois Environmental Protection Agency
1021 North Grand Avenue, East
Springfield, IL 62794-9276

Re: Illinois Power Generating Company - Newton Power Station
Application for Authorization to Construct – Treatment Works
NPDES Permit IL 0049191, Issued Date September 30, 2015, Modified April 26, 2017,

Dear Mr. LeCrone:

Enclosed is an application requesting authorization to construct treatment works associated with the Primary Ash Pond (PAP) at the Illinois Power Generating Company (IPGC) – Newton Power Station.

Currently, the PAP discharges through an outlet structure to the settling pond, which then flows through Outfall 001 to Newton Lake, in accordance with NPDES Permit IL0049191 modified on April 26, 2017. IPGC is proposing to construct additional treatment works to manage source waters currently routed to the PAP. As part of the efforts supporting closure of the PAP, these source waters will be redirected through the new treatment system and subsequently routed to the settling pond prior to discharge via Outfall 001.

The proposed system is designed to ensure that treated effluent discharged through Outfall 001 remains in compliance with the limits established under the existing NPDES permit. Operation of the treatment works will support the closure of the impoundment.

Included with this submission are the completed application form (WPC-PS-1), project schedules, process flow diagrams, and a detailed description of the treatment system. Please refer to the attached documentation for further information.

If you have any questions about the enclosed information or want more information, please contact Rhys Fuller at 618.975.1799 or rhys.fuller@vistracorp.com.

Sincerely,

Kent Schafer
Plant Manager I
Illinois Power Generating Company, Newton Power Station

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

For IEPA Use Only

Application for Permit or Construction Approval
WPC-PS-1

This form must be typewritten or printed legibly. This form may be completed manually or online using Adobe Reader, a copy of it saved locally, printed, and signed before it is submitted to:

Illinois Environmental Protection Agency
Permit Section, Division of Water Pollution Control
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

1. Owner Name: Illinois Power Generating Company - Newton Power Station

Name of Project: Treatment Works

Project Location Address (include nearest street and city address): 6725 500th Street

City: Newton Zip Code: 62448

Township: County: Jasper

2. Brief Description of the Project:

The project entails building a treatment system with primary and secondary settling basins to treat Bottom Ash Sluice and Coal Pile Storm Water Runoff, followed by tertiary filtration. Deicing fluids, fly ash vacuum seal water, and low-volume wastewater will combine with the tertiary decant in a lake tank, which will discharge to the Primary Ash Pond overflow structure.

3. Documents being Submitted: If the Project involves any of the items listed below, submit the corresponding schedule, and check the appropriate boxes

	Schedule			Schedule	
Private Sewer Connection/Extensions	A/B	☐	Spray Irrigation	H	☐
Sewer Extension Construction Only	C	☐	Septic Tanks	I	☐
Sewage Treatment Works	D	☐	Industrial Treatment/Pretreatment	J	☒
Excess Flow Treatment	E	☐	Waste Characteristics	N	☒
Lift Station/force Main	F	☐	Erosion Control	P	☐
Fast Track Service Connection	FTP	☐	Trust Disclosure	T	☐
Sludge Disposal	G	☐			

Plans:

Title: Please see the attached supporting documents and drawings. No. of Pages:

Specifications:

Title: Please see the attached supporting documents and drawings. No. of Books/Pages:

Other Documents: Please see attachments.
(Please specify)

3.1 Illinois Historic Preservation Agency approval letter ○ Yes ◉ No

(If you have a copy of the IHPA approval letter, please send in with the Permit Application Package)

Land Trust: Is the project identified in item Number 1 therein, for which a permit is requested, to be constructed on land which is the subject of a trust? ○ Yes ◉ No

If yes, Schedule T (Trust Disclosure) must be completed and item 7.1.1 must be signed by a beneficiary trustee or trust officer.

This is an application for (Check appropriate box):

○ A. Joint Construction and Operating Permit

◉ B. Authorization to Construct (See Instructions) NPDES Permit No. IL00: 49191 Issuance Date: 9/30/2015

○ C. Construction Only Permit (Does Not Include Operations)

○ D. Operate Only Permit (Does Not Include Construction)

○ E. Supplemental Permit Request to Existing State Construction or Operating Permit No.: _____

Issuance Date: _____

Certifications and Approval

6.1 Certificate by Design Engineer (When required: refer to instructions)

I hereby certify that I am familiar with the information contained in this application, including the attached schedules indicated above, and that to the best of my knowledge and belief such information is true, complete and accurate. The plans and specifications (specifications other than Standard Specifications or local specifications on file with this Agency) as described above were prepared by me or under my direction.

Licensed Professional Engineer's Name: Eric Dulle

Licensed Professional Engineer's Title: Department Manager

Registration Number: 062.065274 License Expiration Date: 11/30/2025

Company: Burns & McDonnell Engineering Company, Inc.

Street Address: 425 S. Woods Mill Road PO Box: _____

City: Chesterfield State: MO Zip + 4: 63017-3441

Email Address: edulle@burnsmcd.com Phone: 314.497.4523

Printed Name: Eric Dulle

Original Signature

11-11-25

Date

Licensed Professional Engineer's Seal

Certifications and Approvals for Permits:

7.1 Certificate by Applicant(s):

I/We hereby certify that I/we have read and thoroughly understand the conditions and requirements of this Application, and am/are authorized to sign this application in accordance with the Rules and Regulations of the Illinois Pollution Control Board. I/we hereby agree to conform with the Standard conditions and with any other Special Conditions made part of this Permit.

7.1.1 Name of Applicant for Permit to Construct: Kent Schafer

Title: Plant Manager I Organization: Illinois Power Generating Company

Street Address: 1500 Eastport Plaza Drive PO Box: _____

City: Collinsville State: IL Zip + 4: 62234-6135

Email Address: kentschafer@vistracorp.com Phone: 618-783-0351

Printed Name: Kent Schafer

Original Signature

11-12-2025

Date

7.4.1 Additional Certificate by Intermediate Sewer Owner

I hereby certify that (Please check one):

○ 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the Illinois Environmental Protection Act or Subtitle C. Chapter I, or

○ 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction of facilities that are the subject of this application.

◉ 3. Not applicable.

Name and location of sewer system to which this project will be tributary:

_____

Sewer System Owner: _____

Address: _____

City: _____ State: ____ Zip + 4: _____

Email Address: _____ Phone: _____

Printed Name: _____

_____ _____

Original Signature Date

7.5 Certificate by Waste Treatment Works Owner

I hereby certify that (Please check one):

○ 1. The wastewater treatment plant to which this project will be tributary has adequate reserve capacity to treat the wastewater that will be added by this project without causing a violation of the Illinois Environmental Protection Act or Subtitle C. Chapter I, or

○ 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction and operation of the facilities that are the subject of this application.

○ 3. I also certify that, if applicable, the industrial waste discharges described in the application are capable of being treated by treatment works.

◉ 4. Not applicable.

Name of Waste Treatment Works: _____

Waste Treatment Works Owner: _____

Address: _____

City: _____ State: ____ Zip + 4: _____

Email Address: _____ Phone: _____

Printed Name: _____

_____ _____

Original Signature Date

FOR IEPA USE:
LOG #
DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION

Springfield, Illinois 62706

SCHEDULE J INDUSTRIAL TREATMENT WORKS CONSTRUCTION OR PRETREATMENT WORKS

1. NAME AND LOCATION:
   1.1 Name of project Treatment Works
   1.2 Plant Location
   1.2.1 SW (Quarter Section) 24 (Section) 6N (Township) 8E (Range) Third P.M.
   1.2.2 Latitude 38 deg. 56 min. 11 sec. "NORTH
   1.2.3 Longitude 88 deg. 16 min. 10 sec. "WEST
   1.2.3 Name of USGS Quadrangle Map (7.5 or 15 minute) 7.5
2. NARRATIVE DESCRIPTION AND SCHEMATIC WASTE FLOW DIAGRAM: (see instructions)

   See Attachment 1: Narrative and Waste Flow Diagram

   2.1 PRINCIPAL PRODUCTS:

   Plant process water and stormwater runoff decant.

   2.2 PRINCIPAL RAW MATERIALS:

   bottom ash sluice, coal pile storm water runoff, deicing, fly ash vacuum seal, and low volume wastewater flows

3. DESCRIPTION OF TREATMENT FACILITIES:
   3.1 Submit a flow diagram through all treatment units showing size, volumes, detention times, organic loadings, surface settling rate, weir overflow rate, and other pertinent design data. Include hydraulic profiles and description of monitoring systems.
   3.2 Waste Treatment Works is: Batch ☐ , Continuous ☒ , No. of Batches/day _____ , No. of Shifts/day _____
   3.3 Submit plans and specifications for proposed construction.
   3.4 Discharge is: Existing ☒ ; Will begin on _____ .
4. DIRECT DISCHARGE IS TO: Receiving Stream ☒ Municipal Sanitary Sewer ☐ Municipal storm or municipal combined sewer ☐
   If receiving stream or storm sewer are indicated complete the following:
   Name of receiving stream Newton Lake ; tributary to _____ ;
   tributary to _____ ; tributary to _____ ;
5. Is the treatment works subject to flooding? Yes ☐ No ☒ If so, what is the maximum flood elevation of record (in reference to the treatment works datum) and what provisions have been made to eliminate the flooding hazard?

   _____

6. APPROXIMATE TIME SCHEDULE: Estimated construction schedule:
   Start of Construction 2025 ;Date of Completion 08/01/26
   Operation Schedule _____ ;Date Operation Begins _____
   100% design load to be reached by year _____ .
   Construction may start in late 2025. The project is expected to finish within eight months, accounting for equipment lead times. Operation to begin upon completion of construction.
7. DESIGN LOADINGS
   7.1 Design population equivalent (one population equivalent is 100 gallons of wastewater per day, containing 0.17 pounds of BOD_5 and 0.20 pounds of suspended solids;
   BOD _____ ; Suspended Solids _____ ; Flow _____ .
   7.2 Design Average Flow Rate _____ MGD.

7.3 Design Maximum Flow Rate _____ MGD.

7.4 Design Minimum Flow Rate _____ MGD.

7.5 Minimum 7-day, 10-year low flow _____ cfs _____ MGD.

Minimum 7-day, 10-year flow obtained from _____

7.6 Dilution Ratio_____;_____.

8. FLOW TO TREATMENT WORKS (if existing):

8.1 Flow (last 12 months)

8.1.1 Average Flow _____MGD

8.1.2 Maximum Flow _____ MGD

8.2 Equipment used in determining above flows.

9. Has a preliminary engineering report for this project been submitted to this Agency for Approval?

Yes ☐ No ☒ . If so, when was it submitted and approved. Date Submitted _____

Certification # _____

Dated _____

10. List Permits previously issued for the facility:

NPDES IL0049191, General Pesticide ILG870847, Open Burning B2501383 , Phase I Landfill 1994-453-LFM, CAAPP 95030066

11. Describe provisions for operation during contingencies such as power failures, flooding, peak loads, equipment failure, maintenance shut downs and other emergencies.

12. Complete and submit Schedule G if sludge disposal will be required by this facility.

13. WASTE CHARACTERISTICS: Schedule N must be submitted.

14. TREATMENT WORKS OPERATOR CERTIFICATION: List names and certification numbers of certified operators:

TBD

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that section. Failure to do so may prevent this form from being processed and could result in your application being denied.

For IEPA Use:

LOG #

DATE RECEIVED:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62794-9276

SCHEDULE N WASTE CHARACTERISTICS

1. Name of Project Treatment Works

2. FLOW DATA

	EXISTING	PROPOSED-DESIGN
2.1 Average Flow (gpd)		
2.2 Maximum Daily Flow (gpd)		

2.3 TEMPERATURE

Time of Year	Avg. Intake Temp. F	Avg. Effluent Temp. F	Max. Intake Temp F.	Max. Effluent Temp F.	Max. Temp. Outside Mixing Zone F
SUMMER					
WINTER					

2.4 Minimum 7-day, 10-year flow: _____ cfs _____ MGD.

2.5 Dilution Ratio: _____ ;_____

2.6 Stream flow rate at time of sampling _____ cfs _____ MGD.

3. CHEMICAL CONSTITUENT Existing Permitted Conditions ☐ ; Existing conditions ☐ ; Proposed Permitted Conditions ☐ .

Type of sample: ☐ grab (time of collection _____); ☐ composite (Number of samples per day _____)

(see instructions for analyses required) See Attachment 4 - Schedule N

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM (mg/l)	DOWNSTREAM SAMPLES (mg/l)
Ammonia Nitrogen (as N)				
Arsenic (total)		<0.025 mg/L		
Barium		0.221 mg/L		
Boron		0.715 mg/L		
BOD_5				
Cadmium		<0.001 mg/L		
Carbon Chloroform Extract				
Chloride				
Chromium (total hexavalent)		<0.005 mg/L		
Chromium (total trivalent)		<0.001 mg/L		

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT Avg. (mg/l) Max.	UPSTREAM (mg/l)	DOWNSTREAM SAMPLES (mg/l)
Copper		<0.005 mg/L		
Cyanide (total)		<5.0 ug/L		
Cyanide (readily released @ 150° F & pH 4.5)		<5.0 ug/L		
Dissolved Oxygen				
Fecal Coliform				
Fluoride		0.83 mg/L		
Hardness (as Ca CO_3)				
Iron (total)		0.141 mg/L		
Lead		<0.015 mg/L		
Manganese		0.0141 mg/L		
MBAS				
Mercury		10.56 ng/L annual avg		
Nickel		<0.005 mg/L		
Nitrates (as N)				
Oil & Grease (hexane solubles or equivalent)		5.0 mg/L		
Organic Nitrogen (as N)				
pH		8.97 (monthly max)		
Phenols		<0.005 mg/L		
Phosphorous (as P)		0.148 mg/L		
Radioactivity				
Selenium		0.0051 mg/L		
Silver		0.003 mg/L		
Sulfate				
Suspended Solids		13.15 mg/L -30 day avg		
Total Dissolved Solids				
Zinc		<0.01 mg/L		
Others				

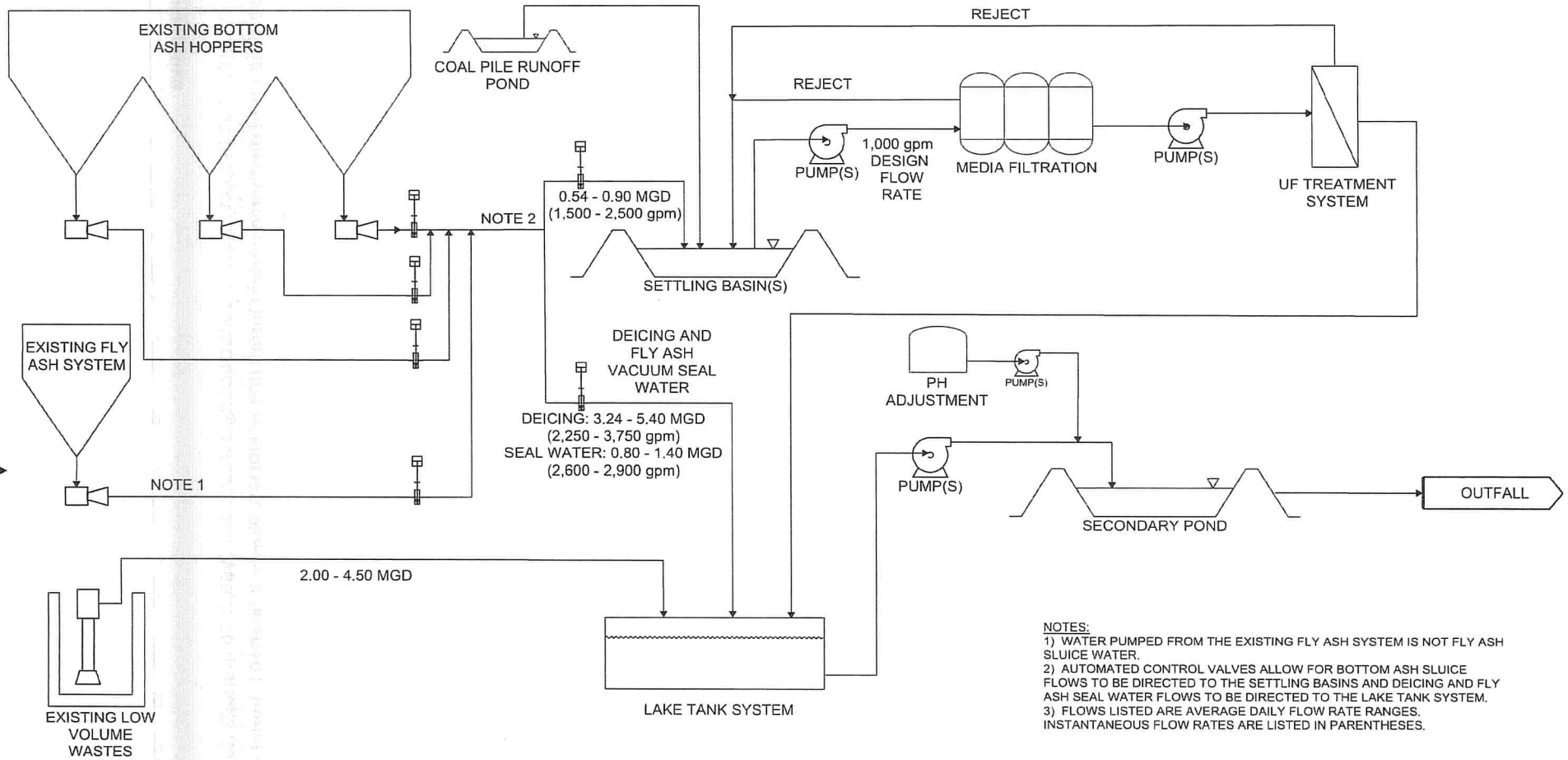
Attachment 1 – Narrative and Waste Flow Diagram

Narrative

The proposed project involves constructing a treatment system to manage flows from the settling pond discharge under Outfall 001 of NPDES Permit IL0049191. Initial site work will include regrading CCR materials within the impoundment to prepare for settling basin installation and equipment access, as well as some geotechnical data gathering.

The system will feature a Primary Settling Basin to remove large particulates from Bottom Ash Sluice and Coal Pile Stormwater Runoff, followed by a Secondary Settling Basin for flow equalization. Water will then enter a tertiary treatment system, including media filtration, and ultrafiltration, with chemical dosing as needed for metals removal, disinfection, and pH adjustment.

Treated water will be stored in a 2-million-gallon lake tank, where it will mix with additional flows such as deicing fluids, low-volume wastewater, and fly ash vacuum seal water. All lake tank water will be pumped to the Primary Ash Pond overflow, ultimately discharging through Outfall 001.



NOTES:
1) WATER PUMPED FROM THE EXISTING FLY ASH SYSTEM IS NOT FLY ASH SLUICE WATER.
2) AUTOMATED CONTROL VALVES ALLOW FOR BOTTOM ASH SLUICE FLOWS TO BE DIRECTED TO THE SETTLING BASINS AND DEICING AND FLY ASH SEAL WATER FLOWS TO BE DIRECTED TO THE LAKE TANK SYSTEM.
3) FLOWS LISTED ARE AVERAGE DAILY FLOW RATE RANGES. INSTANTANEOUS FLOW RATES ARE LISTED IN PARENTHESES.

PRELIMINARY - NOT FOR CONSTRUCTION

no.	date	by	ckd	description
B	10/24/25	MGS	DKE	PERMIT APPLICATION
A	12/19/24	DKE	DRG	SUBMIT WITH BOD

BURNS McDONNELL

designed: D. ELLIOTT | detailed: D. ELLIOTT

VISTRA

NEWTON
WATER TREATMENT
PROCESS FLOW DIAGRAM

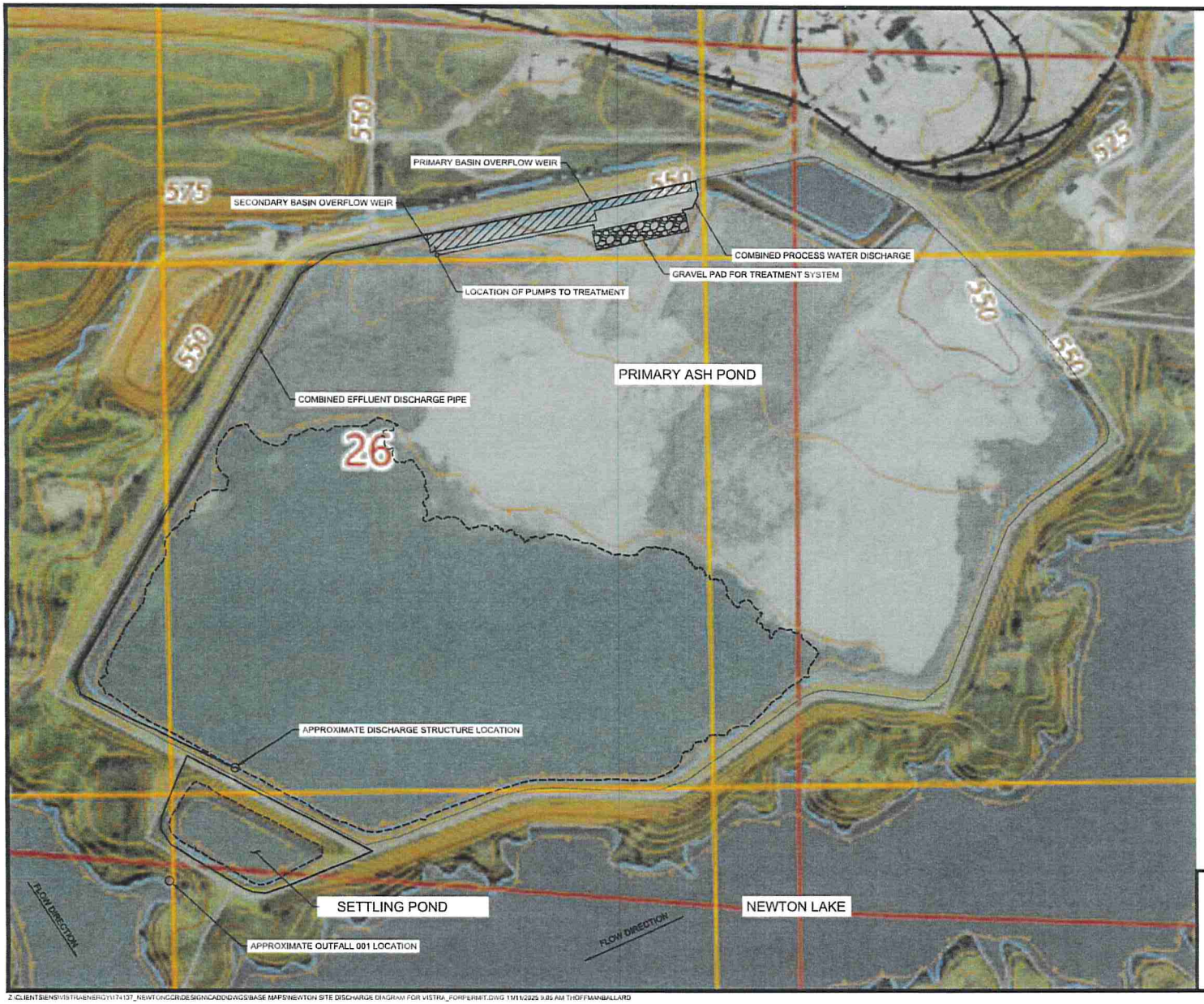
project: 174137 | contract:

drawing: SK-001 | rev.: A

sheet 1 of 1 sheets

file

Attachment 2 – Location Map



LEGEND:

- EXISTING CONTOURS
- APPROX. EDGE OF POND
- PROPOSED INFLUENT PIPE
- PROPOSED EFFLUENT PIPE
- WATER SURFACE
- SETTLING BASIN LOCATIONS
- GRAVEL PAD

NOTES:

1. EXTENTS AND LOCATION OF SITE FEATURES DEPICTED HERE ARE APPROXIMATED BASED ON AERIAL IMAGERY.
2. FLOW DIRECTIONS INDICATED REPRESENT GENERAL FLOW PATH BETWEEN SITE FEATURES AND ARE NOT INDICATIVE OF ACTUAL FLOW PATHS ACROSS THE SITE.

NORTH

0 300' 600'
SCALE IN FEET

BURNS McDONNELL

SITE PLAN
USGS QUADRANGLE MAP
NEWTON POWER STATION
NEWTON, ILLINOIS

Z:\CLIENTS\ENS\VISTRAENERGY\174137_NEWTON\CCR\DESIGN\CAD\DWGS\BASE MAPS\NEWTON SITE DISCHARGE DIAGRAM FOR VISTRA_FORPERMIT.DWG 11/11/2025 9:05 AM THOFFMAN\BALLARD

Attachment 3 – Material Safety Data Sheets

Caustic Soda 25%

Citric Acid 50%

Sodium Bisulfite

Sodium Hypochlorite 12.5%

Sulfuric Acid 30%

Caustic Soda 50%

Univar Solutions

Safety Data Sheet
CAUSTIC SODA 25%

Version 1.12 Revision Date: 03/27/2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CAUSTIC SODA 25%

Recommended use of the chemical and restrictions on use

Recommended use : Reserved for industrial and professional use.
Restrictions on use : None known.

Manufacturer or supplier's details

Company : Univar Solutions USA
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1A

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 : H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P261 Avoid breathing 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 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
1310-73-2	Sodium hydroxide	20 - 30

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

Synonyms : Sodium Hydroxide,

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	:	Keep respiratory tract clear. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for	:	Neutralise with acid.

containment and cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Recommended storage temperature	:	> 10 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0
		C	2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	14 @ 20 - 25 °C (68 - 77 °F)
Freezing Point (Freezing Point)	:	-18 °C (-0.40 °F)
Boiling Point	:	No data available
Flash point	:	94 °C (201 °F) No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.27 - 1.28 @ 20 - 25 °C (68 - 77 °F) Reference substance: (water = 1)
Density	:	No data available
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Halogenated compounds Metals organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 1,961 mg/kg

Skin corrosion/irritation

Product:

Result: Causes burns.

Components:

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

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.

STOT - single exposure

Product:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
1310-73-2:

Toxicity to fish	:	LC50 (Gambusia affinis (Mosquito fish)): 125 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia): 40.38 mg/l Exposure time: 48 h Test Type: Immobilization

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances 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	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1824, Sodium hydroxide solution, 8, II

IATA (International Air Transport Association):
UN1824, Sodium hydroxide solution, 8, II

IMDG (International Maritime Dangerous Goods):
UN1824, SODIUM HYDROXIDE SOLUTION, 8, II, Flash Point:94 °C(201 °F)

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hydroxide	1310-73-2	1000	3921

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation
Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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).

Clean Water Act

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

1310-73-2 Sodium hydroxide

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

1310-73-2 Sodium hydroxide

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

Massachusetts Right To Know

1310-73-2 Sodium hydroxide

Pennsylvania Right To Know

7732-18-5 Water

1310-73-2 Sodium hydroxide

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.

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

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

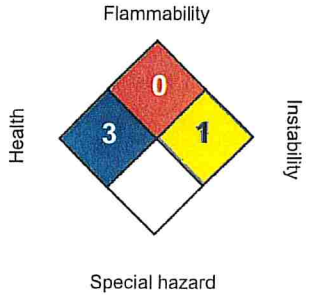
PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

None known.

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	4

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 03/27/2025

Material number:
16224415, 16221451, 16221450, 16221449, 16221448, 16221447, 16221446, 16217001, 16214886, 16214622, 16214617, 16214616, 16214613, 16215333, 16212546, 16212036, 16209256, 16197210, 16206616, 16206171, 16181533, 16192173, 16192016, 16132255, 16158399, 16146684, 16182270, 16148128, 16162026, 16188797, 16145004, 16188640, 16163721, 16162553, 16147855, 16151729, 16147016, 16002081, 16002153, 16163814, 16181444, 16185708, 16185366, 16178437, 16176600, 16176259, 16175654, 16175444, 16175415, 16174721, 16176744, 16170086, 16169860, 16169683, 16146335, 16146334, 16143884, 16145401, 16145323, 16145278, 16145243, 16145242, 16125921, 16116103, 16113730, 755848, 650799, 546389, 70561, 53072, 574261, 53570, 16150734, 16149350, 16149457, 16144981, 16145777, 16147137, 16163653, 102698, 16160832, 16137556, 16137474, 16137324, 16152197, 16152426, 16144481, 16147885, 16159715, 16143521, 16160487, 16160771, 16160572, 16160486, 16147888, 16147884, 16147854, 16147799, 16148872, 16144724

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Govern-ment Industrial Hygienists	LD50	Lethal Dose 50%
AIIC	Australian Inventory of Industrial Chemicals	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substanc-es List	NIOSH	National Institute for Occupational Safety & Health

CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

Univar Solutions

Safety Data Sheet
CITRIC ACID 50%

Version 1.10 Revision Date: 09/12/2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CITRIC ACID 50%

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical

Manufacturer or supplier's details

Company : Univar Solutions USA
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Eye irritation : Category 2A

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

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H290 May be corrosive to metals.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.
Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor 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.
P390 Absorb spillage to prevent material damage.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
77-92-9	Citric acid	50 - 70

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

		Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	Causes serious eye irritation. May cause respiratory irritation.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Foam Dry powder Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralize with chalk, alkali solution or ammonia. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Clear, colorless, light yellow
Odour	:	mild, odorless
Odour Threshold	:	No data available
pH	:	No data available
Freezing Point (Melting point/freezing point)	:	10 - 15 °C (50 - 59 °F)
Boiling Point (Boiling point/boiling range)	:	> 100 °C (> 212 °F)
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.24 - 1.27 @ 25 °C (77 °F) Reference substance: (water = 1)
Density	:	No data available
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: -1.8 - -0.2 @ 20 °C (68 °F)
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Metals nitrites Oxidizing agents Reducing agents Strong bases
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

77-92-9:
Species: Rabbit
Result: Irritating to eyes.

Respiratory or skin sensitisation

Skin sensitisation: Not classified due to lack of data.
Respiratory sensitisation: Not classified due to lack of data.

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

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.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

May cause respiratory irritation.

Components:

77-92-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Not classified due to lack of data.

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:
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

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances 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	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN3265, Corrosive liquid, acidic, organic, n.o.s., (CITRIC ACID), 8, III

IATA (International Air Transport Association):

UN3265, Corrosive liquid, acidic, organic, n.o.s., (CITRIC ACID) , 8, III

IMDG (International Maritime Dangerous Goods):
UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (CITRIC ACID), 8, III

Special Notes: : "NOT REGULATED" by the Hazardous Materials Regulations and not subject to placarding when transported by a motor vehicle or railcar in a bulk packaging constructed of materials that will not react dangerously with or be degraded by the corrosive material. Refer to 49 CFR 173.154 (d) "Materials corrosive to aluminum and steel only."

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Corrosive to metals
Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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

This product does not contain any priority pollutants related to the U.S. Clean Water Act

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

77-92-9	Citric acid	

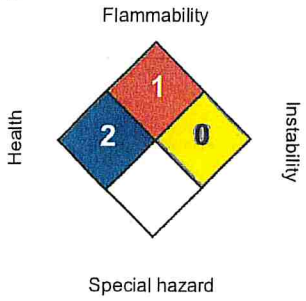
California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2/
FLAMMABILITY	1
PHYSICAL HAZARD	4

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions

beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 09/12/2025

Legacy SDS: : R0221834

Material number:
16225984, 16223225, 16222126, 16221477, 16221475, 16221474, 16221473, 16222125, 16210541, 16208722, 16208597, 16206828, 16205745, 16199677, 16194565, 16145014, 16165585, 16188860, 16186250, 16180588, 16172873, 16162055, 16143387, 16141548, 16151913, 16172520, 16168045, 16167314, 16148332, 16163328, 16137587, 16147853, 16144641, 16143895, 16149114, 16145258, 16144886, 16141719, 16142319, 16141700, 16141732, 16140923, 16141803, 16140268, 16140272, 16140397, 16177805, 16177490, 16011013, 16006260, 16006259, 151183, 102147, 147173, 53242, 87296, 70109, 69356, 87277, 69296

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AIIC	Australian Inventory of Industrial Chemicals	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

	New Chemical Substances		
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

Section 1 - Product and Company Identification

Product Name: Sodium Bisulfite
Chemical Formula: $NaHSO_3$
CAS Number: 007631-90-5
Other Designations: Sodium Bisulfite Solution, Sodium Hydrogen Sulfite Solution.
General Use: Food and pharmaceutical preservative, waste water dechlorination agent, laboratory reagent, reducing agent, dietary supplement, and color preservative.

Manufacturer: INEOS Calabrian Corporation
375 Hallnor RD
Porcupine, ON P0N 1C0

Telephone: 1-705-235-3134
Fax: 1-409-727-5803

Emergency Contact: CHEMTREC 800-424-9300

Section 2 - Hazards Identification

Emergency Overview
Target Organs: Respiratory system, eyes, skin
GHS Classification: Acute Toxicity, Oral (Category 4)
Acute Toxicity, Dermal (Category 5)
Serious Eye Irritant (Category 2A)

GHS Label Elements: Signal Word – Warning

Pictogram

Corrosive

Irritant

Hazard Statements: H302 – Harmful if swallowed
H313 – May be harmful to skin
H319 – Causes serious eye irritation

Precautionary Statements: P280 – Wear protective equipment for hands, eyes, face and respiratory tract
P305, P351 and P338 – IF IN EYES: Rinse with water for several minutes. Remove contact lenses if present and continue rinsing.
Other Hazards: Contact with acids liberates toxic sulfur dioxide gas.

HMIS Classification: Health Hazard 2
Flammability 0
Physical 0

NFPA Rating:	Health Hazard	2
	Fire	0
	Reactivity	0

Potential Health Effects:	Inhalation:	Irritant to respiratory tract
	Eye:	Irritant
	Skin:	Irritant
	Ingestion:	Harmful if swallowed
	Aggravated Medical Condition:	Capable of provoking bronchospasm in sulfite sensitive individuals with asthma.

Section 3 - Composition / Information on Ingredients

Composition	CAS Number	% Wt
Water	-	50 – 70
Sodium bisulfite	007631-90-5	30 – 50
Sodium Sulfite	007757-83-7	< 1.0
Sodium Sulfate	007757-82-6	< 3.5

Section 4 - First Aid Measures

Exposure Route	Symptom	Treatment
Inhalation:	Sore throat, shortness of breath coughing, and congestion.	Remove from exposure to fresh air. Seek medical attention in severe cases or if recovery is not rapid.
Eye Contact:	Irritation to eyes and mucous membranes.	Irrigate with water until no evidence of chemical remains. Obtain medical attention.
Skin Contact:	Irritation, itching, dermatitis	Wash with soap and drench with water. Remove contaminated clothing and wash before reuse.
Ingestion:	Irritation to mucous membranes.	Give large quantities of water or milk immediately. Obtain medical attention.

Seek appropriate medical attention *and provide this SDS to attending doctor*
Note to physician: Exposure may aggravate acute or chronic asthma, emphysema and bronchitis.

Section 5 - Fire-Fighting Measures

Flash Point:	Not combustible.
Flash Point Method:	Not Applicable.
Burning Rate:	Not Applicable.
Auto Ignition Temperature:	Not Applicable.
LEL:	Not Applicable.
UEL:	Not Applicable.
Flammability Classification:	Not Flammable.
Extinguishing Media:	Use extinguishing agent appropriate for surrounding fire conditions.
Unusual Fire or Explosion Hazards:	None indicated.
Hazardous Combustion Product:	May release hazardous gas.
Fire-Fighting Instructions:	Do not release runoff from fire control methods to sewers or

waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive- pressure mode.

Section 6 - Accidental Release Measures

Spill / Leak Procedures: Wear appropriate PPE - See Section 8.

Small Spills / Leaks: Spills can be neutralized with an alkaline material such as caustic soda. Leaks may be located by spraying the area with ammonium hydroxide solution which forms a white fume in the presence of sulfur dioxide.

Large Spills / Leaks: Large spills should be handled according to a predetermined plan.

Containment: For large spills, dike far ahead of contaminated runoff for later disposal.

Section 7 - Handling and Storage

Handling Precautions: Avoid contact with product. Do not breathe dust or vapor.

Storage Requirements: Store in areas, away from heat and moisture and protect from *physical* damage. Segregate from acids and oxidizers.

Section 8 - Exposure Controls / Personal Protection:

Component: Sodium Bisulfite **CAS Number:** 007631-90-5

ACGIH (TLV) **TWA:** 5 mg/m^3

OSHA (PEL) **TWA:** 5 mg/m^3

NIOSH (REL) **TWA:** 5 mg/m^3

IDLH – None established

IDLH - Immediately Dangerous to Life or Health
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
TLV – Threshold Limit Value
ACGIH – American Conference of Governmental Industrial Hygienists
TWA – Time Weighted Average based on 8 hour exposure days and a 40 hour week.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne Concentrations below OSHA limits (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at the source.

Respiratory Protection: Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear a SCBA.

Warning! Air-

purifying respirators do not protect workers in oxygen- deficient atmospheres.

Protective Clothing / Equipment: Wear protective gloves, boots, and clothing when necessary to prevent excessive skin contact. Wear protective eyeglasses or goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133).

Safety Stations: Make emergency eyewash stations, showers, and washing facilities available in the work area.

Contaminated Equipment: Remove this material from personal protective equipment as needed. Do not eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before food or beverage consumption.

Section 9 - Physical and Chemical Properties

Physical State:	Liquid	**Water Solubility**:	NA
Appearance:	Yellow	**Other Solubility:**	NA
Odor Threshold:	Pungent SO_2 odor	**Boiling Point:**	205 ^oF
Vapor Pressure:	NA	**Freezing Point:**	26 ^oF
Vapor Density (Air=1):	NA	**Melting Point:**	
Formula Weight:	104	**Evaporation Rate:**	Normal.
Density:	NA	**pH:**	2.9 – 4.9
Specific Gravity (H_2O=1):	1.3 - 1.4	**% Volatile:**	NA

Section 10 - Stability & Reactivity

Stability: Stable under normal conditions.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Sodium Bisulfite Solutions may release toxic and hazardous fumes of sulfur oxides, including sulfur dioxide. Acute poisoning from sulfur dioxide is rare because the gas is easily detected. It is so irritating that contact cannot be tolerated. Symptoms include coughing, hoarseness, sneezing, tearing, and breathing difficulty. However, workers who cannot escape high accidental exposure may suffer severe pulmonary damage which can be fatal. Contact with powdered potassium, sodium metals, alkali, and oxidizing agents produce violent reactions. Reacts with water and steam to form corrosive sulfurous acid. Reacts with chlorates to form unstable chlorine dioxide.

Conditions to Avoid: Avoid excessive heat, or open flame.

Hazardous Decomposition Products: May release hazardous sulfur dioxide gas

Section 11 - Toxicological Information

Eye Effects (rabbit): Not available. **Acute Inhalation Effects (rat):** Not available. **Skin Effects (rabbit):** Not available. **Acute Oral Effects (rat):** LD_{50} = 2,000 mg/kg

Carcinogenicity: IARC, NTP, and OSHA do not list Sodium Bisulfite as a carcinogen.

Chronic Effects: Prolonged or repeated exposure may cause dermatitis, and sensitization

reactions. Exposure to asthmatic, atopic and sulfite sensitive individuals may result in severe bronchioconstriction and reduced levels in forced expiratory volume. Decomposition of sodium bisulfite solutions may release toxic and hazardous fumes of sulfur oxides, including sulfur dioxide, which may cause permanent pulmonary impairments from acute and chronic exposure. ***The Immediately Dangerous to Life or Health (IDLH) level for SO_2 is 100 ppm.***

Aquatic Toxicity: The toxicity threshold of Sodium Bisulfite (100 hr. at 23 degrees Celsius) to Daphnia Magna has been reported to be 102 mg/l. In the presence of additional sodium salts, this threshold may be lower. For minnows, exposed for 6 hours to sodium bisulfite solution in distilled water at 19 degrees Celsius it was 60-65 mg/l, and in hard water at 18 degrees Celsius it was 80-85 mg/l.

The 24, 48, and 96 hour LC50 value was 240 mg/l for the mosquito-fish (Gambusia affinis in turbid water at 17 - 22 degree Celsius.

Section 12 - Ecological Information

Ecotoxicity: Sodium Bisulfite is a non hazardous solution commonly used as a waste water dechlorination agent. High concentrations will contribute to elevated chemical oxygen demand in aquatic environments.

Environmental Transport: Soluble in water.

Environmental Degradation: Rapid biological decomposition.

Soil Absorption/Mobility: Slight.

Section 13 - Disposal Considerations

Disposal: Waste determinations typically consider Sodium Bisulfite contaminated materials to be non-hazardous.

Disposal Regulatory Requirements: Follow applicable Federal, state and local regulations.

Container Cleaning and Disposal: Follow applicable Federal, state and local regulations.

Section 14 - Transport Information

Shipping Name:	Bisulfites, aqueous solutions, n.o.s.
Technical Name:	Sodium Bisulfite
Shipping Symbols:	Corrosive
Hazard Class:	8 - Corrosive
Subsidiary Hazard:	NA
ID No. (Placard):	UN2693
Packing Group:	III
Label:	Required
Reputable Quantity:	(RQ) 5,000 Lbs

Section 15 - Regulatory Information

EPA Regulations:

RCRA Hazardous Waste Classification (40 CFR 261):	Not listed.
RCRA Hazardous Waste Number (40 CFR 261):	Not listed.
CERCLA Hazardous Substance (40 CFR 302.4):	Listed.
CERCLA Reportable Quantity (RQ):	5000 pounds
SARA Title III:	Not listed.
FIFRA:	Not regulated.
TSCA:	Inventory listed chemical; PAIR Reportable; Not listed in Toxic Substances Chemical Index

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000):	Not listed.
OSHA Specifically Regulated Substance:	Not listed.

Other Regulations:

FDA:	Regulated when used as a food preservative.
Proposition 65 (California):	Not Listed

Section 16 - Other Information

This product is NSF certified to NSF/ANSI Standard 60 and is subject to a maximum use limit (MUL) 0f 46 mg/L for potable water dechlorination applications.

Previous SDS issue date: May, 2015
Current SDS issue date: September 2017
Reason for current revision: Address change.

The information herein is believed to be reliable. However, no warranty, expressed or implied, is made as to its accuracy or completeness and none is made as to the fitness of this material for any purpose. The manufacturer shall not be liable for damages to person or property resulting from its use. Nothing herein shall be construed as a recommendation for use in violation of any patent.

Univar Solutions

Safety Data Sheet
SODIUM HYPOCHLORITE 12.5%

Version 1.18 Revision Date: 02/10/2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5%

Recommended use of the chemical and restrictions on use

Recommended use : Reserved for industrial and professional use.

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
7681-52-9	Sodium hypochlorite	12.5
1310-73-2	Sodium hydroxide	0 - 5

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

Synonyms : Liquichlor, Bleach,

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Take victim immediately to hospital.

Move to fresh air.

If breathing has stopped, apply artificial respiration.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing. If irritation develops, get medical attention. Burns must be treated by a physician.
In case of eye contact	:	In case of eye contact Immediately flush eye(s) with plenty of water. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If easy to do, remove contact lens, if worn. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	:	Take victim immediately to hospital. Do NOT induce vomiting. Rinse mouth with water. If victim is fully conscious, give a cupful of water. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0
		C	2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and

use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing Point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)
Boiling Point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available

Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	1.17 g/cm3
Solubility(ies) Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

7681-52-9:
Acute oral toxicity : LD50 (Rat, male): > 2,000 mg/kg

1310-73-2:
Acute oral toxicity : LD50 (Rabbit): 325 mg/kg

Skin corrosion/irritation

Components:

7681-52-9:
Species: Rabbit
Result: Causes burns.

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:

7681-52-9:
Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

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.

STOT - single exposure

Components:

7681-52-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish	:	LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.141 mg/l Exposure time: 48 h Test Type: flow-through test EC50 (Ceriodaphnia dubia): 0.035 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	IC50: 0.023 mg/l Exposure time: 7 d Test Type: flow-through test
M-Factor (Acute aquatic toxicity)	:	10
Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

Substances
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 : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1791, Hypochlorite solutions, 8, III , Marine Pollutant (SODIUM HYPOCHLORITE)

IATA (International Air Transport Association):
UN1791, Hypochlorite solution, 8, III

IMDG (International Maritime Dangerous Goods):
UN1791, HYPOCHLORITE SOLUTION, 8, III, Marine Pollutant (SODIUM HYPOCHLORITE)

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hypochlorite	7681-52-9	100	800
Sodium hydroxide	1310-73-2	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals

Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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).

Clean Water Act

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

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

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

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

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

Massachusetts Right To Know

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

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.

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

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

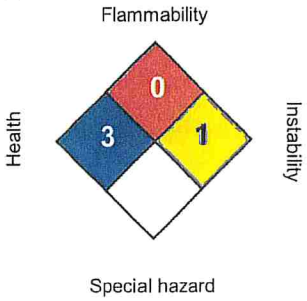
KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	0
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Revision Date : 02/10/2022

Legacy SDS: : R0004191

Material number:
16185565, 16185315, 16182803, 16182803, 16182146, 16180800, 16151747, 16144335, 16147791, 16179440, 16164756, 16164762, 16164766, 16173035, 16172686, 16173104, 16164347, 16164592, 16164731, 16164730, 16164686, 16164337, 16172598, 16147922, 16146040, 16151002, 16149524, 16158615, 16145640, 16148059, 16144666, 16147989, 16163791, 16160423, 16160441, 16158853, 16151253, 16149870, 16148071, 16148060, 16147684, 16147117, 16146776, 16146856, 16146855, 16146854, 16145965, 16145895, 16145890, 16145584, 16145144, 16145142, 16145140, 16145138, 16145137, 16145133, 16145130, 16145079, 16159810, 16150495, 16149123, 16147041, 16145471, 16144665, 16145772, 16145833, 16148433, 16148183, 16148162, 16145046, 16143737, 16135287, 16163624, 16161401, 16148721, 16155765, 16158840, 16145484, 16166710, 16148748, 16148260, 16166763, 16166591, 16145834, 16166014, 16159793, 16162934, 16165524, 16165444, 16165066, 16137823, 16137455, 16137753, 16147687, 16144215, 16150496, 16149504, 16145673, 16149243, 16136536

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

SAFETY DATA SHEET

Issue Date 02-Sep-2016 **Revision Date** 14-Sept-2020 **Version** 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name SULFURIC ACID, 30%

Other means of identification
Product Code H2SO430
UN/ID No. UN2796
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Acid.
Uses advised against PREVENT DISPERSION OF MISTS!

Manufacturer Address
Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

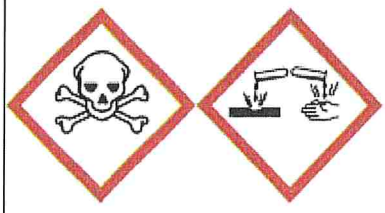
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Label elements

Emergency Overview

Danger

Hazard statements
Toxic if inhaled
Causes severe skin burns and eye damage
May be corrosive to metals



Appearance aqueous solution **Physical state** liquid **Odor** None

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Keep only in original container
Wear protective gloves/protective clothing/eye protection/face protection
Use only in well-ventilated areas

Precautionary Statements - Response
Specific treatment (see Section 4 on this label)
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
Absorb spillage to prevent material damage

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in a corrosive resistant container.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Sulfuric acid	7664-93-9	30	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General advice Immediate medical attention is required.

Eye contact Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.

Skin Contact Flush with water for 15 minutes. Get medical attention. Remove contaminated clothing and wash before reuse.

Inhalation Remove victim from immediate source of exposure to fresh air. If breathing is difficult, administer oxygen if available. If victim is not breathing, administer CPR. If individual experiences nausea, headache, or dizziness, get immediate medical attention.

Ingestion Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms Causes severe irritation and or burns.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical. Carbon dioxide (CO2).

Unsuitable extinguishing media DO NOT USE WATER.

Specific hazards arising from the chemical
Direct contact with water can cause a violent exothermic reaction. Contact with metals may evolve flammable hydrogen gas.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate nonessential personnel. Ventilate area. Wear appropriate personal protection equipment.

Environmental precautions See Section 12 for additional ecological information.

Methods for containment Stop leak if you can do it without risk. Completely contain spilled material with dikes or sand bags, etc.

Methods for cleaning up Recover as much material as possible into containers for disposal or reuse. Remaining material may be diluted with water and neutralized. Flush spill area with water. Neutralization products, both solid and liquid, must be recovered for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Do not get in eyes, on skin, or clothing. Do not breathe vapors or mists. Do not ingest. Wash thoroughly after handling. Wear protective clothing/equipment. Use with adequate ventilation. NEVER add water to product. ALWAYS add product, with constant stirring, slowly to surface of water to minimize heat generation and spattering.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed and properly labeled. Containers that have been emptied will retain product residue and should be handled as if they were full. Store in a cool, dry, well-ventilated place away from incompatible materials. Wash hands before eating, drinking, using tobacco, applying make-up or using the toilet. Do not store, use, and/or consume foods, beverages, tobacco in areas where this product is stored.

Incompatible materials Water. Alkalis. Metals, metal powders such as aluminum, zinc, tin, etc. Strong oxidizing agents (hypochlorites). Reducing agents. Chlorates. Fulminates. Nitrates. Picrates. Cyanides. Sulfides. Carbides. Organic materials. Combustible material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m³ thoracic fraction	TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³	IDLH: 15 mg/m³ TWA: 1 mg/m³

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear protective splash proof safety goggles. Additional full face protection is recommended if splashing is a possibility.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	aqueous solution	**Odor**	None
Color	clear colorless	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	<1	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.182	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Incompatible materials. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product.

Incompatible materials
Water. Alkalis. Metals, metal powders such as aluminum, zinc, tin, etc. Strong oxidizing agents (hypochlorites). Reducing agents. Chlorates. Fulminates. Nitrates. Picrates. Cyanides. Sulfides. Carbides. Organic materials. Combustible material.

Hazardous Decomposition Products
Oxides of sulfur.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	No data available
Inhalation	May be harmful by inhalation.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin Contact	Contact causes severe skin irritation and possible burns.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 510 mg/m³ (Rat) 2 h

Information on toxicological effects

Symptoms No information available.

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

Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfuric acid 7664-93-9	A2	Group 1	Known	X

Reproductive toxicity	No information available.
STOT - single exposure	No information available.

STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 6114 mg/kg
ATEmix (inhalation-dust/mist) 0.7 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sulfuric acid 7664-93-9	-	500: 96 h Brachydanio rerio mg/L LC50 static	29: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	California Hazardous Waste Status
Sulfuric acid 7664-93-9	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT Regulated
UN/ID No. UN2796
Proper shipping name Sulfuric Acid
Hazard Class 8
Packing Group II

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	Percent by Weight
Sulfuric acid - 7664-93-9	30.0

SARA 311/312 Hazards
Corrosive to metal
Acute toxicity - Inhalation (Dusts/Mists)
Serious eye damage or eye irritation
Skin corrosion or irritation

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid 7664-93-9	1000 lb	-	-	X

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

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

Chemical Name	California Proposition 65
Sulfuric acid - 7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA	**Health hazards** 3	**Flammability** 0	**Instability** 2	**Physical and Chemical Properties** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 2	**Personal protection** X

Prepared By lmt
Issue Date 02-Sept-2016
Revision Date 14-Sept-2020
Revision Note
14-Sept-2020-Updated Section 15

Disclaimer
The information provided in this Material 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.

End of Safety Data Sheet

Univar Solutions

Safety Data Sheet
CAUSTIC SODA 50%

Version 1.7 Revision Date: 04/22/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CAUSTIC SODA 50%

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.

Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1A

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with

water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
1310-73-2	Sodium hydroxide	50 - 70

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Recommended storage temperature : > 16 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing

problems.

Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Freezing Point	:	No data available
Boiling Point	:	No data available
Flash point	:	> 93 °C (> 199 °F) does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.5298
Density	:	12.76 lb/gal
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available

Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Corrosive to metals Exothermic reaction with acids.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Freezing temperatures. Heat
Incompatible materials	:	Acids Metals Oxidizing agents Halogenated compounds organic nitro compounds Zinc
Hazardous decomposition products	:	Hydrogen

SECTION 11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation

Components:
1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:
1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

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.

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

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1824, Sodium hydroxide solution, 8, II

IATA (International Air Transport Association):
UN1824, Sodium hydroxide solution, 8, II

IMDG (International Maritime Dangerous Goods):
UN1824, SODIUM HYDROXIDE SOLUTION, 8, II, Flash Point:> 93 °C(> 199 °F)

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hydroxide	1310-73-2	1000	2000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:
1310-73-2 Sodium hydroxide
The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

1310-73-2 Sodium hydroxide

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

Massachusetts Right To Know

1310-73-2 Sodium hydroxide

Pennsylvania Right To Know

1310-73-2 Sodium hydroxide
7732-18-5 Water

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.

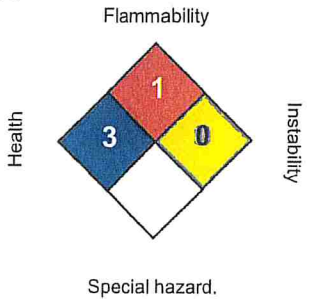
The components of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

DSL : On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 04/22/2021

Material number:
16169006, 16168617, 16150547, 16162842, 16162538, 16144429, 16173515, 16168911, 16162950, 16162022, 16144216, 16143594, 16162020, 16168720, 16169880, 16166706,

16152119, 16173289, 16179365, 16166192, 16137935, 16136595, 16136382, 16161861, 16143735, 16151817, 85472, 52714, 71460, 54298, 16168314, 16146819, 16163462, 16148908, 16144035, 16166958, 16166445, 16137825, 16151508, 16151289, 16160192, 16147037, 16156058, 16155066, 16135486, 16159912, 16141649, 16140194, 16064783, 16064423, 16036726, 16036725, 613255, 122390, 70451, 103323, 69362, 69435, 16158900, 16135663, 16144460, 16141402, 16155700, 16148966, 16140382, 16135119, 16130097, 16141077, 16153239, 16173368, 16173088, 16172806, 16172714, 16145332, 16147230, 16172887, 16145289, 16165789, 16148895, 16172568, 16172658, 16162001, 16148608, 16148473, 16147429, 16145794, 16145033, 16143915, 16145322, 16145246, 16145245, 16145244, 16144980, 16163740, 16171452, 16172333, 16143522, 16171381, 16147378, 16147586

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

Attachment 4 – Schedule N

Narrative

As detailed in this application, the water exiting the proposed treatment system will ultimately be discharged via Outfall 001 through the settling pond. No new source of water will be introduced into the settling pond discharge. The most recent NPDES monitoring data for Outfall 001 are provided in Schedule N. The additional proposed treatment measures will ensure continued compliance with the NPDES permit limits during pond closure.

Fuller, Rhys

From: Fuller, Rhys
Sent: Friday, January 16, 2026 3:36 PM
To: 'Herrera, Francisco'
Subject: RE: Illinois Power Generating Company- Newton Power Station- New Treatment Works
Attachments: Newton WPC Application - Revised Attachment 2 Site Map.pdf

Francisco,

See attached revised Attachment 2 that shows the revised layout. The location of the gravel pad that will contain the treatment equipment was swapped with the location of the settling basins such that the pad is now closer to the berm. No other changes are being made.

Additionally, the volumes you requested are included below.

Primary Basin
Length: 580 ft
Bottom Width: 3 ft
Total Depth: 8 ft
Volume: 19,300 CF (before primary overflows into secondary basin)

Secondary Basin
Length: 980 ft
Bottom Width: 60 ft
Total Depth: 8 ft
Volume: 210,000 CF (before secondary overflows the top of the weir into pond)

Let me know if you have any additional questions. We are hoping to get equipment on site in mid-February. Apologize again for the delay on this.

Thanks,

Rhys

From: Herrera, Francisco <Francisco.Herrera@Illinois.gov>
Sent: Tuesday, January 13, 2026 1:44 PM
To: Fuller, Rhys <Rhys.Fuller@vistracorp.com>
Subject: RE: Illinois Power Generating Company- Newton Power Station- New Treatment Works

Thank you for the update. Let me know if there might be some delay. The permit application has a regulatory due date of February 12, 2026.

Francisco Herrera
Environmental Protection Engineer
Industrial Unit, Permit Section
Division of Water Pollution Control
Bureau of Water
847-221-3076
francisco.herrera@illinois.gov

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From: Fuller, Rhys <Rhys.Fuller@vistracorp.com>
Sent: Tuesday, January 13, 2026 9:27 AM
To: Herrera, Francisco <Francisco.Herrera@Illinois.gov>
Subject: [External] RE: Illinois Power Generating Company- Newton Power Station- New Treatment Works

Francisco,

Apologize for the delay on this. I've had some vacation as have others I've had to consult with on this.

We've had further discussions with the design engineers since the submittal and have decided we need to change the location of the settling basins and treatment equipment, and are making some revisions to the drawings this week to reflect that change.

I'm planning on sending you the revised drawings and the volumes by the end of this week.

Thanks,

Rhys

From: Herrera, Francisco <Francisco.Herrera@Illinois.gov>
Sent: Tuesday, December 30, 2025 3:58 PM
To: Fuller, Rhys <Rhys.Fuller@vistracorp.com>
Subject: Illinois Power Generating Company- Newton Power Station- New Treatment Works

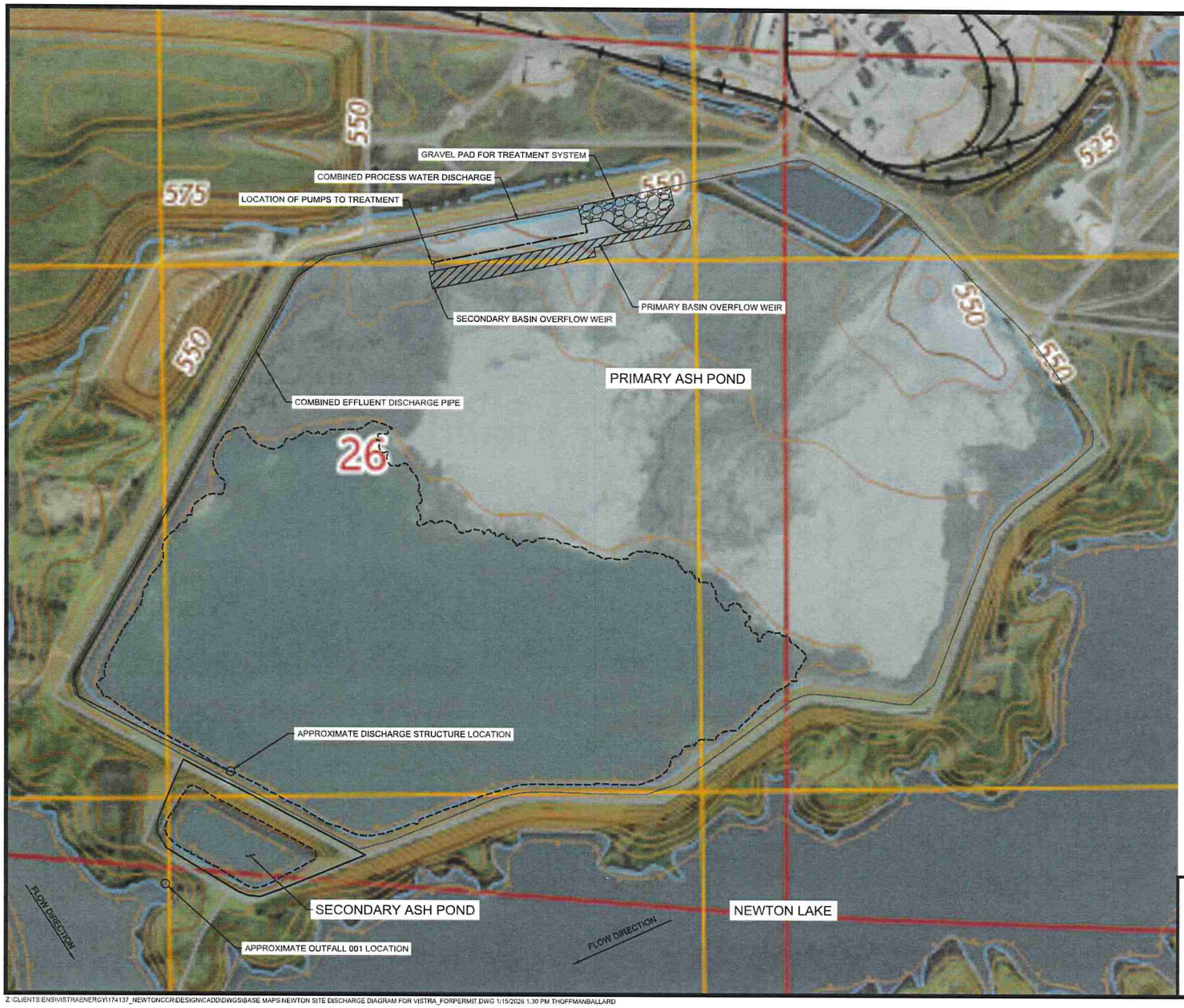
EXTERNAL EMAIL

Hello Rhys,

I am working on the new proposed treatment works for the Newton Power Station. What are the capacities of the proposed primary and secondary settling basins?

Francisco Herrera
Environmental Protection Engineer
Industrial Unit, Permit Section
Division of Water Pollution Control
Bureau of Water
847-221-3076
francisco.herrera@illinois.gov

Join our team: Illinois EPA Employment



LEGEND:

- EXISTING CONTOURS
- APPROX. EDGE OF POND
- PROPOSED INFLUENT PIPE
- PROPOSED EFFLUENT PIPE
- WATER SURFACE
- SETTLING BASIN LOCATIONS
- GRAVEL PAD

NOTES:

1. EXTENTS AND LOCATION OF SITE FEATURES DEPICTED HERE ARE APPROXIMATED BASED ON AERIAL IMAGERY.
2. FLOW DIRECTIONS INDICATED REPRESENT GENERAL FLOW PATH BETWEEN SITE FEATURES AND ARE NOT INDICATIVE OF ACTUAL FLOW PATHS ACROSS THE SITE.

NORTH

0 300' 600'
SCALE IN FEET

BURNS McDONNELL

SITE PLAN
USGS QUADRANGLE MAP
NEWTON POWER STATION
NEWTON, ILLINOIS

Z:\CLIENTS\ENS\VISTRAENERGY\174137_NEWTONCCR\DESIGN\CADD\DWGS\BASE MAPS\NEWTON SITE DISCHARGE DIAGRAM FOR VISTRA_FORPERMIT.DWG 1/15/2026 1:30 PM THOFFMANBALLARD