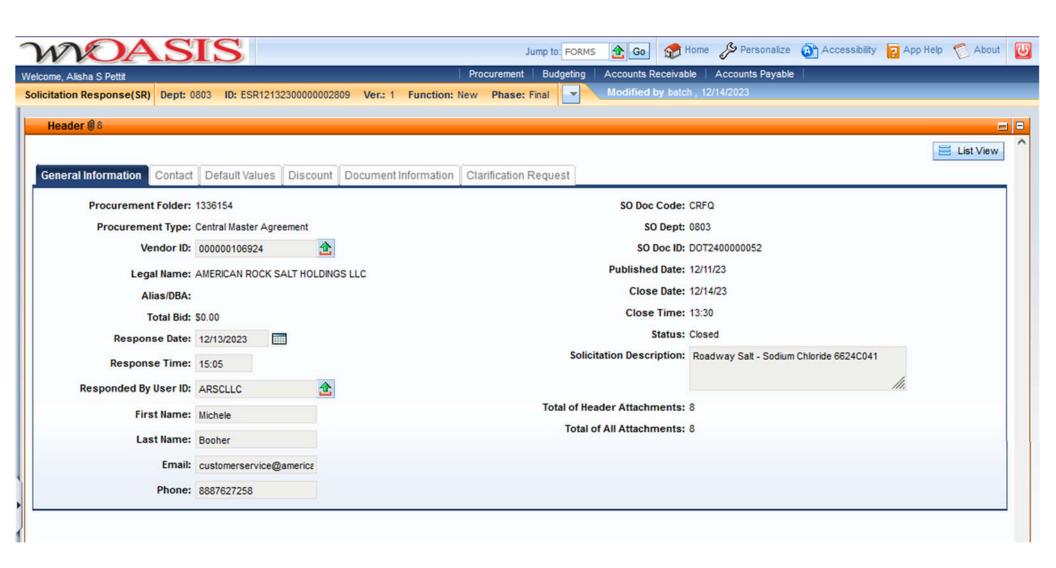
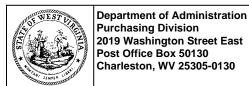


2019 Washington Street, East Charleston, WV 25305 Telephone: 304-558-2306 General Fax: 304-558-6026

Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at *wvOASIS.gov*. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at *WVPurchasing.gov* with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.





# State of West Virginia Solicitation Response

Proc Folder: 1336154

Solicitation Description: Roadway Salt - Sodium Chloride 6624C041

Proc Type: Central Master Agreement

 Solicitation Closes
 Solicitation Response
 Version

 2023-12-14 13:30
 SR 0803 ESR12132300000002809
 1

**VENDOR** 

000000106924

AMERICAN ROCK SALT HOLDINGS LLC

Solicitation Number: CRFQ 0803 DOT2400000052

Total Bid: 0 Response Date: 2023-12-13 Response Time: 15:05:53

Comments:

FOR INFORMATION CONTACT THE BUYER

John W Estep 304-558-2566 john.w.estep@wv.gov

Vendor Signature X

FEIN# DATE

All offers subject to all terms and conditions contained in this solicitation

 Date Printed:
 Dec 14, 2023
 Page: 1
 FORM ID: WV-PRC-SR-001 2020/05

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Roadway Salt - Sodium Chloride - DELIVERY	0.00000	TON	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #	
46161506				

**Commodity Line Comments:** \*\*\* SEE PRICING PAGES, delivery shall commence immediately and be due within 10 calendar day **Extended Description:** 

DELIVERY of roadway salt by Vendor to WVDOH Agency delivery locations, as specified on the ATT A Pricing Pages and Delivery Site spreadsheet.

VENDOR NOTE: Bid evaluation will be based on the bid prices submitted on the Pricing Pages Attachment A (ATT A) and Attachment B(ATT B). Vendor's entries of bid prices or other notations made in the wvOASIS commodity lines/descriptions will not be considered for bid evaluation or award.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Roadway Salt - Sodium Chloride - PICK-UP	0.00000	TON	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #	
46161506				

**Commodity Line Comments:** \*\*\* SEE PRICING PAGES, delivery shall commence immediately and be due within 10 calendar day **Extended Description:** 

PICK-UP of roadway salt by a WVDOH Agency from a Vendor's source site.

VENDOR NOTE: Bid evaluation will be based on the bid prices submitted on the Pricing Pages Attachment A (ATT A) and Attachment B(ATT B). Vendor's entries of bid prices or other notations made in the wvOASIS commodity lines/descriptions will not be considered for bid evaluation or award.

Date Printed: Dec 14, 2023 Page: 2 FORM ID: WV-PRC-SR-001 2020/05

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Jamie A. McClain, Marketing Manager
(Address) 5520 Rt. 63, PO Box 190, Mt. Morris, NY 14510
(Phone Number) / (Fax Number) (888) 762-7258 / (585) 243-7676
(email address) customerservice@americanrocksalt.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

American Rock Salt Co., LLC	
(Company) a McClain	
(Signature of Authorized Representative)	
Jamie A. McClain, Marketing Manager	
(Printed Name and Title of Authorized Representative) (Date)	
_(888) 762-7258 / (585) 243-7676	
(Phone Number) (Fax Number)	
customerservice@americanrocksalt.com	
(Email Address)	



Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# State of West Virginia Centralized Request for Quote Highways

Proc Folder:	1336154		Reason for Modification:
Doc Descriptio	n: Roadway Salt - Sodium	Chloride 6624C041	
Proc Type:	Central Master Agreeme	nt	
Date Issued	Solicitation Closes	Solicitation No	Version
2023-12-04	2023-12-14 13:30	CRFQ 0803 DOT2400000052	1

#### **BID RECEIVING LOCATION**

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON WV 25305

US

#### VENDOR

Vendor Customer Code: 106924

Vendor Name: American Rock Salt Co., LLC

Address: PO Box 190

Street: 5520 Rt. 63

City: Mount Morris

State: New York Country United States zip: 14510

Principal Contact: Jamie A. McClain

Vendor Contact Phone: (888) 762-7258 Extension:

#### FOR INFORMATION CONTACT THE BUYER

John W Estep 304-558-2566

john.w.estep@wv.gov

Vendor Signature X

All offers subject to all terms and conditions contained in this solicitation

DATE December 12, 2023

Date Printed: Dec 4, 2023

Page: 1

FEIN#

FORM ID: WV-PRC-CRFQ-002 2020/05



Department of Administration **Purchasing Division** 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

#### State of West Virginia **Centralized Request for Quote Highways**

Proc Folder:

1336154

Reason for Modification:

Doc Description: Roadway Salt - Sodium Chloride 6624C041

ADDENDUM NO\_1

Vendor Question and Response.

**Proc Type:** 

**Central Master Agreement** 

Date Issued

Solicitation Closes

2023-12-07

2023-12-14 13:30 CRFQ

**Solicitation No** 

DOT2400000052

Version

2

0803

**BID RECEIVING LOCATION** 

**BID CLERK** 

DEPARTMENT OF ADMINISTRATION

**PURCHASING DIVISION** 

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

**VENDOR** 

Vendor Customer Code: 106924

Vendor Name: American Rock Salt Co., LLC

Address: PO Box 190

Street: 5520 Rt. 63

**Mount Morris** City:

Country: United States Zip: 14510 **New York** State:

Principal Contact: Jamie A. McClain

(888) 762-7258 **Vendor Contact Phone: Extension:** 

FOR INFORMATION CONTACT THE BUYER

John W Estep 304-558-2566

john.w.estep@wv.gov

Vendor

Signature X

DATE December 12, 2023

All offers subject to all terms and conditions contained in this solicitation

Date Printed: Dec 7, 2023

Page: 1

FORM ID: WV-PRC-CRFQ-002 2020/05



Department of Administration **Purchasing Division** 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

#### State of West Virginia **Centralized Request for Quote Highways**

**Proc Folder:** 1336154 Reason for Modification: Doc Description: Roadway Salt - Sodlum Chloride 6824C041 ADDENDUM NO\_2 **Vendor Questions and responses Proc Type:** Central Master Agreement **Date Issued Solicitation Closes** Solicitation No. Version 2023-12-11 2023-12-14 13:30 CRFQ 0803 DOT2400000052 3

**BID RECEIVING LOCATION** 

**BID CLERK** 

DEPARTMENT OF ADMINISTRATION

**PURCHASING DIVISION** 

2019 WASHINGTON ST E

CHARLESTON WV 25305

US

VENDOR

Vendor Customer Code: 106924

Vendor Name: American Rock Salt Co., LLC

Address: PO Box 190 Street: 5520 Rt. 63

**Mount Morris** City:

Country: United States **New York** Zip: 14510 State:

Principal Contact: Jamie A. McClain

Vendor Contact Phone: (888) 762-7258 Extension:

FOR INFORMATION CONTACT THE BUYER

John W Estep 304-558-2566

john.w.estep@wv.gov

Vendor Signature X

FEIN#

DATE December 12, 2023

All offers subject to all terms and conditions contained in this solicitation

Date Printed: Dec 11, 2023

Page: 1

FORM ID: WV-PRC-CRFQ-002 2020/05

# ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.; CRFQ DOT2400000052

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

(Check	the b	ox next to each addendum	received	l)	
	[X]	Addendum No. 1	[	]	Addendum No. 6
	[X] <sup>1</sup>	Addendum No. 2	[	]	Addendum No. 7
	[]	Addendum No. 3	[	]	Addendum No. 8
	[ ]	Addendum No. 4	[	]	Addendum No. 9

Addendum Numbers Received:

Addendum No. 5

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Addendum No. 10

American Rock Salt Company, LLC
Company
Jamie a Mclain
Jamie A. McClain Authorized Signature
December 12, 2023
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

## REQUEST FOR QUOTATION Roadway Salt – Sodium Chloride

- 7.2 The following remedies shall be available to Agency upon default.
  - 7.2.1 Immediate cancellation of the Contract.
  - 7.2.2 Immediate cancellation of one or more release orders issued under this Contract.
  - 7.2.3 Any other remedies available in law or equity.

#### 8. MISCELLANEOUS:

- **8.1 No Substitutions:** Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.
- **8.2 Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.
- 8.3 Contract Manager: During its performance of this Contract, Vendor must designate and maintain a primary Contract Manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract Manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract Manager and his or her contact information below.

Contract Manager:	
Felephone Number:	
Fax Number:	
Email Address:	

Vendor shall inform the Agency in writing of any changes to the information provided above within ten (10) calendar days of such changes. Failure to comply may be grounds for cancellation of this contract.

# ROADWAY SALT - SODIUM CHLORIDE Attachment A Pricing Pages

**District 1 - Delivery** 

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

	DISTRICT 1		
County	Delivery Site Location	Estimated Quantity	Vendor Bid Pric (cost per ton)
	Clinton @ WV85	100	
Boone	Rock Creek	0	
	Seth	0	
	Boone County Total Estimated	100	No Bid
Cl	Widen Road & CR 11	0	
Clay	Maysel	0	
	Clay County Total Estimated	0	No Bid
	Chelyan	0	
	Elkview	0	
	North Charleston	0	
Kanawha	St. Albans	0	
Kanawna	I-64 @ Rt. 119 and Penn. Avenue	300	
	I-77 @ Sissonville	300	
	I-79 @ Amma	300	
	Corridor G @ Alum Creek	300	
	Kanawha County Total Estimated	1,200	No Bid
	Glenwood	0	
Mason	Pt. Pleasant @ Fairground Rd.	300	
	Pt. Pleasant @ Jackson Ave.	0	
	Mason County Total Estimated	300	No Bid
	Red House	0	
Putnam	Hurricane @ Rt. 34	0	
	I-64 @ Scary Creek	300	
	Putnam County Total Estimated	300	No Bid
	DISTRICT 1 TOTAL	1,900	

## Attachment A Pricing Pages District 2 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

	DISTRICT 2		
County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)
	Barboursville / Cabell Co. HQ	800	
Cabell	Huntington I-64 Section 1	850	
Cabell	Huntington 31st Bridge	0	1
	Huntington 17th St. Bridge	0	
	Cabell County Total	1,650	No Bid
	West Hamlin	700	
Lincoln	Yawkey	200	
	Harts	Quantity  800  850  0  0  1,650  700	
	Lincoln County Total	1,200	No Bid
	Corridor G @ Chapmanville	550	
Logan	Wilkinson Substation	150	
Logan	Man Substation	100	1
	Hickory Lane	0	
	Logan County Total	800	No Bid
	Corridor G @ Miller's Creek, Bldg #03011	100	
Mina	Mingo Cty @Miller's Creek, Bldg #03025	100	
Mingo	Gilbert Substation	100	
	Mingo 119 South	0	
	Mingo County Total	300	No Bid
	Pritchard Substation	0	
117	Wayne County Headquarters	1,300	
Wayne	Crum Substation	0	
	Heartland Intermodal Gateway	0	
	Wayne County Total	1,300	No Bid
	DISTRICT 2 TOTAL	5,250	

# Attachment A Pricing Pages District 3 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)
Calhoun	Millstone	500	
	Calhoun County Total	500	No Bid
Jackson	Ripley / Jackson Co. HQ	1,900	
Juckson	I-77 @ Medina	900	
	Jackson County Total	2,800	No Bid
Pleasants	Belmont	1,000	
	Pleasants County Total	1,000	No Bid
	APD Pennsboro	700	
	Ellenboro / Harrisville Substation	2,000	
Ritchie	Greenwood	350	
	Corridor D @ Nutter Farm	350	
	Smithville Substation	350	
	Ritchie County Total	3,750	No Bid
	Lefthand @ WV 36	150	
Roane	Ambler Ridge Substation @ US 119	150	
	Roane County HQ	1,200	
	Roane County Total	1,500	No Bid
Wirt	Harrisville Substation	750	
	Wirt County Total	750	No Bid
	Parkersburg @ Rt. 95S	100	
Wood	I-77 @ Parkersburg	100	
	Corridor D @ Riverhill	100	
	Wood County Total	300	No Bid
	DISTRICT 3 TOTAL	10,600	

# Attachment A Pricing Pages District 4 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

	DISTRICT 4			
County	Delivery Site Location	Estimated Quantity	Vendor Bid Pric (cost per ton)	
Doddridge	West Union	1,000		
	Doddridge County Total	1,000	\$110.82	
	Harrison Co. HQ	5,500		
77	Saltwell	500		
Harrison	Lost Creek Substation	1,500		
	Tunnel Hill Substation	1,500		
	Harrison County Total	9,000	\$107.50	
Marrian	Marion Co. HQ	1,500		
Marion	Mannington Substation	1,000		
	Marion County Total	2,500	\$92.00	
	Goshen Rd. Substation	2,000		
Monongalia	Monongalia Co. HQ	5,000		
	Pentress Substation	1,000		
	Monongalia County Total	8,000	\$88.00	
	Bruceton Mills Substation	2,500		
	Preston Co. HQ	1,200		
Preston	Terra Alta Substation	1,000		
rresion	Fellowsville Substation	1,000		
	Aurora Substation	1,000		
	Cooper's Rock Substation	2,000		
Pr	eston County Total	8,700	\$89.00	
Taylor	Taylor Co. HQ	1,600		
	Taylor County Total	1,600	\$92.00	
	DISTRICT 4 TOTAL	30,800		

#### ROADWAY SALT - SODIUM CHLORIDE Attachment A Pricing Pages

District 5 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

County	Delivery Site Location	Estimated Quantity	Vendor Bid Pric (cost per ton)
	Martinsburg Headquarters - 0571 Storage Bldg	500	
Berkeley	Tabler Station - 0502 Storage Bldg	500	
	Berkeley County Headquarters	500	
	Berkeley County Total	1,500	\$128.21
	Grant Co. HQ	200	
Grant	Mt. Storm Substation	1,000	
	Corridor H @ Knobley Road	500	
	Grant County Total	1,700	\$110.67
	Hampshire Co. HQ	500	
Hampshire	Capon Bridge Substation	400	
	Slanesville	300	
	Hampshire County Total	1,200	\$115.43
11 1	Hardy Co. HQ	500	
Hardy	Baker Substation	500	
	Hardy County Total	1,000	\$122.00
I -CC	Jefferson County Headquarters - 0519 Storage Bldg	500	
Jefferson	9/340 Expressway Headquarters - 0564 Storage Bldg	500	
	Jefferson County Estimated Total	1,000	\$131.66
	Mineral Co. HQ	500	
Mineral	Skyline Substation	400	
winerai	Short Gap Substation	300	
	District 5 HQ	100	
	Mineral County Total	1,300	\$112.00
Morgan	Morgan Co. HQ	500	
Morgan	Largent Substation	300	
	Morgan County Total	800	\$118.52

## Attachment A Pricing Pages District 6 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

DISTRICT 6						
County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)			
Brooke	Brooke County HQ	1,500				
Бтооке	US 22 Substation	1,500				
	Brooke County Total	3,000	\$87.00			
Hancock	Hancock County HQ	2,000				
	Hancock County Total	2,000	\$89.50			
	Marshall Co. HQ	2,900				
Marshall	Lynn Camp Substation	700				
Marsnati	Cameron Substation	1,550				
	Sand Hill Substation	650				
	Marshall County Total	5,800	\$94.00			
Ohio	Ohio Co. HQ	2,000				
Onio	I-70 Interstate HQ	3,500				
	Ohio County Total	5,500	\$85.50			
T1	Tyler Co. HQ	1,100				
Tyler	Centerville Substation	800				
	Tyler County Total	1,900	\$106.00			
	Wetzel Co. HQ	1,100				
Wetzel	Pine Grove Substation	700				
	Hundred Substation	900				
	Wetzel County Total	2,700	\$114.00			
	DISTRICT 6 TOTAL	20,900				

## Attachment A Pricing Pages District 7 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

	DISTRICT 7			
County	Delivery Site Location	Estimated Quantity	Vendor Bid Pric (cost per ton)	
Barbour	Barbour Co. HQ (000111)	1400		
Багооиг	Belington Substation (000113)	1100		
	Barbour County Total	2,500	\$101.77	
	Braxton County HQ (000444)	800		
Braxton	Heaters Substation (000431)	600		
braxion	Coon Knob Substation (000405)	1200		
	Burnsville Substation (000432)	1300		
	Braxton County Total	3,900	\$118.93	
Gilmer	Gilmer County HQ (001110)	700		
	Gilmer County Total	700	\$121.44	
Lewis	Lewis County HQ (002108)	1200		
Lewis	APD (Weston Mudlick) (002187)	900		
	Lewis County Total	2,100	\$111.12	
	Clow Lot/Upshur County HQ (004912)	2400		
Upshur	Tennerton/Upshur County SubHQ (004903)	100	7	
	Kanawha Head	800		
	Upshur County Total	3,300	\$117.61	
	Cherry Falls	400		
Webster	RT 20/Cowen Substation (005110)	0		
webster	Webster County HQ @ Bolair	1000		
	Hacker Valley Substation (005120)	100		
	Webster County Total	1,500	\$128.35	
	DISTRICT 7 TOTAL	14,000		

## Attachment A Pricing Pages District 8 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

DISTRICT 8					
County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)		
	Franklin, 220 North	500			
	Judy Gap Substation	400			
Pendleton	Brandywine Stockpile	250			
renateion	Sugar Grove Substation	300			
	Onego Stockpile	50			
	Franklin Rt. 220 South Lot	200			
	Pendleton County Total	1,700	\$125.45		
	Pocahontas County HQ	800			
	Seebert Stockpile	500			
Pocahontas	Green Bank Substation	400			
r ocunonius	Bartow Lot	500			
	Snowshoe Stockpile	100			
	Slaty Fork Stockpile	300			
	Pocahontas County Total	2,600	\$130.34		
	Randolph Co. HQ	800			
	Harman Substation	550			
	Coalton Substation	650			
Randolph	Alpena Saltshed	150			
Капаогрп	Valley Head Substation	500			
	Mill Creek Substation	550			
	Pickens Substation	300			
	Corridor H	800			
	Randolph County Total	4,300	\$117.83		
	Tucker Co. HQ	700			
Tucker	Thomas Substation	700			
	Corrido H - Thomas	500			
	Tucker County Total	1,900	\$110.99		
	DISTRICT 8 TOTAL	10,500			

## Attachment A Pricing Pages District 9 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

DISTRICT 9						
County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)			
	Oak Hill APD	5,700				
Fayette	Lookout Substation	0				
	Falls View Substation	500				
I	Fayette County Estimated Total	6,200	No Bid			
	Greenbrier Co. HQ	1,500				
Greenbrier	Crawley Substation	3,200				
	Hart's Run Substation	1,300				
Gree	enbrier County Estimated Total	6,000	No Bid			
Monroe	Monroe Co. HQ	800				
Monroe	Peterstown Substation	600				
N.	Ionroe County Estimated Total	1,400	No Bid			
	Nicholas Co. HQ	3,000				
Nicholas	Curtin Substation	2,000				
	Corridor L/Muddlety Substation	3,000				
Ni	cholas County Estimated Total	8,000	No Bid			
Summers	Summers Co. HQ	1,400				
Sui	mmers County Estimated Total	1,400	No Bid			
	DISTRICT 9 TOTAL	23,000				

## Attachment A Pricing Pages District 10 - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete, or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

County	Delivery Site Location	Estimated <b>Quantity</b>	Vendor Bid Price (cost per ton)
	McDowell County HQ	1,800	
McDowell	Yukon Substation	270	7
мсрожен	Johnny Cake Substation	450	
	Raysal	450	
McDo	well County Estimated Total	2,970	No Bid
	Mercer County HQ	2,340	
Mercer	Flat Top Substation	270	
	I-77 near Princeton	2,340	7
Me	rcer County Estimated Total	4,950	No Bid
	Raleigh County HQ	7,200	
Raleigh	Bolt Substation	90	7
	Bragg Substation	4,500	
Rale	eigh County Estimated Total	11,790	No Bid
	Wyoming County HQ	2,700	
Wyoming	Still Run Substation	900	7
	Hanover Outpost	90	7
Wyon	ning County Estimated Total	3,690	No Bid

#### Attachment A Pricing Pages WV Parkways Authority - Delivery

Vendor shall complete ATT A by providing a price per ton for the delivery of roadway salt to any or all Counties listed. Vendor shall NOT add, delete or modify spreadsheet column and row headers, descriptions, units of measure, or estimated quantities. Exhibit A - "WVDOH Delivery Site Information" contains detailed location and contact information for delivery site locations listed below.

WV PARKWAYS AUTHORITY						
County	Delivery Site Location	Estimated Quantity	Vendor Bid Price (cost per ton)			
Kanawha	Chelyan Maintenance Standard Maintenance	3000 2900				
Kan	nawha County Estimated Total	5,900	No Bid			
Mercer	Princeton Maintenance	1500				
N.	Mercer County Estimated Total	1,500	No Bid			
Raleigh	Beckley Maintenance Ghent Maintenance	6700 4100				
R	aleigh County Estimated Total	10,800	No Bid			
	WV PARKWAYS' TOTAL	18,200				

# Attachment A Pricing Pages Agency Pick-up

Vendor shall provide a physical 911 address and a price per ton for roadway salt to be available for pick-up by WVDOH Agencies. Vendor pricing shall include Vendor loading Agency trucks.

V	Vendor Bid Price		
Vendor Storage Site Locations	(cost per ton)		
2124 Schoonmaker Ave.			
Belle Vernon, PA 15012	\$78.00/ton pickup		
	\$76.00/ton pickup		

TWANG3

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 10/26/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER. AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on

uns ceruncate does not come i	ignis to the certificate floider in fled of st	ich endorsement(s).		
PRODUCER License # 0C36861		CONTACT Tracy Wang		
Alliant Insurance Services, Inc. 560 Mission St 6th Fl		PHONE FAX (A/C, No, Ext): (A/C, No):		
San Francisco, CA 94105		E-MAIL ADDRESS: Tracy.Wang2@alliant.com		
		INSURER(S) AFFORDING COVERAGE	NAIC #	
		INSURER A: American Zurich Insurance Company	40142	
INSURED		INSURER B : American Guarantee and Liability Insurance Comp	any 26247	
American Rock Salt (	Company, LLC	INSURER C: Zurich American Insurance Company		
P.O. Box 190		INSURER D:		
Mount Morris, NY 145	510	INSURER E :		
		INSURER F:		
COVERAGES	CERTIFICATE NUMBER:	REVISION NUMBER:		

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

A X COMMERCIAL GENERAL LIABILITY  CLAIMS-MADE X OCCUR  CLAIMS-MADE X OCCUR  CLAIMS-MADE X OCCUR  X GLO18720708  10/30/2023  10/30/2023  10/30/2023  10/30/2024    DAMAGE TO RENTED   \$ 2,0     DAMAGE TO RENTED   \$ 1,0     DEED   PRODUCTS - COMP/OP AGG   \$ 4,0     PRODUCTS - COMP/OP AGG   \$ 1,0		CLUSIONS AND CONDITIONS OF SUCH F						
A X COMMERCIAL GENERAL LIABILITY  CLAIMS-MADE X OCCUR  COMBETO SERVED S S 1,0  MED EXP (Any one person) \$  PERSONAL & ADV INJURY \$ 1,0  GENERAL AGGREGATE \$ 10,0  COMBINED SINGLE LIMIT \$ 1,0  COMBINED SINGLE	INSR	TYPE OF INSURANCE	ADDLS INSD V	UBR VVD POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP	LIMIT	S
BAPO18720908    IU/30/2023   IU/30/2024   PREMISES (Ea occurrence)   S					(	,,		<del></del>
BAP018720908  BA		CLAIMS-MADE X OCCUR	X	GLO18720708	10/30/2023	10/30/2024	DAMAGE TO RENTED PREMISES (Ea occurrence)	
GEN'L AGGREGATE LIMIT APPLIES PER:  POLICY PRODUCTS - COMP/OP AGG \$ 4,0  THERE  AUTOMOBILE LIABILITY  X ANY AUTO OWNED AUTOS ONLY AU							MED EXP (Any one person)	
BAPO18720908  BA							PERSONAL & ADV INJURY	
OTHER: OWNED AUTOS ONLY SEACH OCCURENCE SEACH OCCURRENCE SEACH		GEN'L AGGREGATE LIMIT APPLIES PER:					GENERAL AGGREGATE	
A AUTOMOBILE LIABILITY  X ANY AUTOS ONLY AUTOS  OWNED AUTOS ONLY A		POLICY PRO- X LOC					PRODUCTS - COMP/OP AGG	Ψ
AUTONOBILE LIABILITY  X ANY AUTO OWNED AUTOS ONLY AUTOS		OTHER:						\$ 1,000,000
OWNED AUTOS ONLY AUTOS ONLY NON-OWNED AUTOS ONLY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?  WORKERS COMPENSATION AND EMPLOYERS' LIABILITY  ANY PROPRIETOR/PARTNER/EXECUTIVE (Mandatory in NH)  If yes, describe under DESCRIPTION OF OPERATIONS below  DED AUTOS ONLY SCHEDULED AUTOS ONLY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?  WC018720608  BODILY INJURY (Per accident) \$  BODILY INJURY (Per accident) \$  PROPERTY DAMAGE \$  AGGREGATE \$  S  WC018720608  10/30/2023  10/30/2024  X PER OTH- EL. DISEASE - EA EMPLOYEE \$  1,0 EL. DISEASE - POLICY LIMIT \$  1,0	Α	AUTOMOBILE LIABILITY						\$ 1,000,000
AUTOS ONLY AUTOS ONLY HIRED NON-OWNED AUTOS ONLY NON-OWNED STATUS ONLY NON-OWNED AUTOS ONLY NON-OWNED STATUS STATU				BAP018720908	10/30/2023	10/30/2024	BODILY INJURY (Per person)	\$
B WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below    Continue of the continue		AUTOS ONLY AUTOS						\$
WC018720608  UMBRELLA LIAB		HIRED AUTOS ONLY NON-OWNED AUTOS ONLY					PROPERTY DAMAGE (Per accident)	\$
EXCESS LIAB CLAIMS-MADE  DED RETENTION \$    MORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE (Mandatory in NH)     If yes, describe under DESCRIPTION OF OPERATIONS below     DESCRIPTION OF OPERATIONS below     DESCRIPTION OF OPERATIONS below     AGGREGATE \$   AGGREGATE \$   X PER OTH-ER     STATUTE     E.L. EACH ACCIDENT \$   1,00     E.L. DISEASE - EA EMPLOYEE \$   1,00     E.L. DISEASE - POLICY LIMIT \$   E.L. DISEA								\$
B WORKERS COMPENSATION \$  WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)  If yes, describe under DESCRIPTION OF OPERATIONS below  WC018720608  10/30/2023  10/30/2024  X PER OTH- E.L. EACH ACCIDENT \$ 1,0 E.L. DISEASE - EA EMPLOYEE \$ 1,0 E.L. DISEASE - POLICY LIMIT \$ 1,0		UMBRELLA LIAB OCCUR					EACH OCCURRENCE	\$
B WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below  WC018720608  10/30/2023  10/30/2024  X PER OTH- E.L. DISEASE - EA EMPLOYEE \$ 1,00 E.L. DISEASE - POLICY LIMIT \$ 1,00		EXCESS LIAB CLAIMS-MADE					AGGREGATE	\$
ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?  (Mandatory in NH)  If yes, describe under DESCRIPTION OF OPERATIONS below  WC018720608  10/30/2023  10/30/2023  10/30/2024  E.L. EACH ACCIDENT \$ 1,00  E.L. DISEASE - EA EMPLOYEE \$ 1,00  E.L. DISEASE - POLICY LIMIT \$ 1,00								\$
ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)  If yes, describe under DESCRIPTION OF OPERATIONS below  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	В	AND EMPLOYERS' LIABILITY					X   PER   OTH- STATUTE   ER	4.000.000
(Mandatory in NH)  If yes, describe under DESCRIPTION OF OPERATIONS below  E.L. DISEASE - EA EMPLOYEE \$ 1,0  E.L. DISEASE - POLICY LIMIT \$ 1,0		ANY PROPRIETOR/PARTNER/EXECUTIVE	N/A	WC018720608	10/30/2023	10/30/2024	E.L. EACH ACCIDENT	<del></del>
DÉSCRIPTION OF OPERATIONS below E.L. DISEASE - POLICY LIMIT \$		(Mandatory in NH)					E.L. DISEASE - EA EMPLOYEE	
C Cargo   MNG3500495-22   8/1/2023   10/30/2024   Limit   1,0		DÉSCRIPTION OF OPERATIONS below			244995	10100100-		
	С	Cargo		MNG3500495-22	8/1/2023	10/30/2024	Limit	1,000,000
	l							
	<u> </u>							

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required) State of West Virginia is named as additional insured per written contract as it relates to general liability in accordance with the terms and conditions of the policy.

CERTIFICATE HOLDER	CANCELLATION

State of West Virginia 1900 Kanawha Blvd. E, Bldg. 5 Room 110 Charleston, WV 25305

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

**AUTHORIZED REPRESENTATIVE** 

ACORD 25 (2016/03)

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# Broad Form Additional Insured – Blanket – Automatic – Energy – New York

THIS ENDORSEMENT CHANGES THE PO	LICY. PLEASE READ IT CAREFULLY.
Policy No. GLO 0187207-08	Effective Date: 10/30/2023

This endorsement modifies insurance provided under the:

#### **Commercial General Liability Coverage Part**

A. Section II - Who Is An Insured is amended to include as an additional insured:

Any person or organization whom you are required to add as an additional insured on this policy under a written contract or written agreement, subject to the following provisions.

- a. Such person or organization is an additional insured only to the extent such coverage is required by written contract or written agreement and only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:
  - (1) Your acts or omissions; or
  - (2) The acts or omissions of those acting on your behalf,

in the performance of your ongoing operations or "your work" as included in the "products-completed operations hazard", which is the subject of the written contract or written agreement; or

- b. Such person or organization is an additional insured only with respect to liability for "bodily iniurv" to:
  - (1) Your "employee"; or
  - (2) An employee of a subcontractor acting on your behalf,

but only to the extent:

- (a) Coverage for "bodily injury" to your "employee" or an employee of subcontractors acting on your behalf, regardless of whose fault caused such injury, is required by written contract or written agreement; and
- **(b)** Such "bodily injury" arises in the performance of your ongoing operations or "your work" as included in the "products-completed operations hazard", which is the subject of the written contract or written agreement.

However, the insurance afforded to such additional insured:

- (i) Only applies to the extent permitted by law; and
- (ii) Will not be broader than that which you are required by the written contract or written agreement to provide for such additional insured.
- **B.** Solely with respect to the insurance afforded to the additional insureds indicated in Paragraph **A.** of this endorsement, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of or the failure to render any professional architectural, engineering or surveying services including:

1. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

2. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

C. Solely with respect to this endorsement, the following is added to the **Duties In The Event Of Occurrence**, **Offense**, **Claim Or Suit** Condition of Section **IV – Commercial General Liability Conditions**:

The additional insured must see to it that:

- (1) We are notified as soon as practicable of an "occurrence" or offense that may result in a claim;
- (2) We receive written notice of a claim or "suit" as soon as practicable; and
- (3) A request for defense and indemnity of the claim or "suit" will promptly be brought against any policy issued by another insurer under which the additional insured may be an insured in any capacity. This provision does not apply to insurance on which the additional insured is a Named Insured if the written contract or written agreement requires that this coverage be primary and non-contributory.
- **D.** Solely with respect to this endorsement:
  - 1. The following is added to the **Other Insurance** Condition of Section IV **Commercial General Liability** Conditions:

#### **Primary and Noncontributory insurance**

This insurance is primary to and will not seek contribution from any other valid and collectible insurance available to an additional insured provided that:

- (1) The additional insured is a Named Insured under such other valid and collectible insurance; and
- (2) You are required by written contract or written agreement that this insurance be primary and not seek contribution from any other valid and collectible insurance available to the additional insured.
- 2. The following paragraph is added to Paragraph 4.b. Excess Insurance of the Other Insurance Condition of Section IV Commercial General Liability Conditions:

This insurance is excess over:

Any of the other valid and collectible insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by a written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

- **E.** This endorsement does not apply to an additional insured which has been added to this policy by an endorsement showing the additional insured in a Schedule of additional insureds, and which endorsement applies specifically to that identified additional insured.
- F. Solely with respect to the insurance afforded to the additional insureds under this endorsement, the following is added to Section III Limits Of Insurance:

The most we will pay on behalf of the additional insured is the amount of insurance:

- a. Required by the written contract or written agreement referenced in Paragraph A. of this endorsement; or
- **b.** Available under the applicable Limits of Insurance shown in the Declarations.

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms, conditions, provisions and exclusions of this policy remain the same.

# Other Insurance Amendment – Primary And Non-Contributory



Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 0187207-08	10/30/2023	10/30/2024		06409000	INCL	

#### THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured:

Address (including ZIP Code):

This endorsement modifies insurance provided under the:

#### **Commercial General Liability Coverage Part**

 The following paragraph is added to the Other Insurance Condition of Section IV – Commercial General Liability Conditions:

This insurance is primary insurance to and will not seek contribution from any other insurance available to an additional insured under this policy provided that:

- a. The additional insured is a Named Insured under such other insurance; and
- **b.** You are required by a written contract or written agreement that this insurance would be primary and would not seek contribution from any any other insurance available to the additional insured.
- 2. The following paragraph is added to Paragraph 4.b. of the Other Insurance Condition of Section IV Commercial General Liability Conditions:

This insurance is excess over:

Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

All other terms and conditions of this policy remain unchanged.

## POLICY NUMBER: GLO 0187207-08

# WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

#### **SCHEDULE**

Name Of Person Or Organization:
BLANKET AS REQUIRED BY WRITTEN CONTRACT.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph 8. Transfer Of Rights Of Recovery Against Others To Us of Section IV – Conditions:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.



# **Certificate of Analysis**

Sample: October 2023 Ice Control Salt Composite Sample

**Product: Ice Control Rock Salt** 

American Rock Salt Company LLC

Certificate Date: November 20, 2023

Gradation:	Rock Salt	
Screen Analysis:	Results:	<b>ASTM Specs:</b>
<u>Sieve</u>	% Passing	% Passing
1/2	100.0	100
3/8	96.9	95 to 100
4	65.5	20 to 90
8	33.5	10 to 60
30	9.9	0 to 15

**YPS: 95.0 ppm** 20 ppm

(Yellow Prussiate of Soda, Anti-caking agent)

% Moisture: 0.08% < 2%

%Water Insolubles: 2.3%

% Na<sub>2</sub>SO<sub>4</sub>: 1.7%

% Sodium Chloride: 96.0% Minimum 95%

Prepared by:

Sharon Hinkson

Shara Hackson

Environmental & QA Scientist

American Rock Salt Company LLC



Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

#### 1. PRODUCT IDENTIFICATION

1.1 COMMON NAME:

CHEMICAL NAME:

CHEMICAL FORMULA:

CAS#:

PRODUCT NAMES AS LABELED:

1.2 PRODUCT USE:

**1.3 MANUFACTURER'S NAME:** 

ADDRESS:

BUSINESS PHONE: FAX NUMBER:

WEB SITE:

1.4 EMERGENCY PHONE NUMBER:

**EMERGENCY PHONE #**:

EMAIL:

**1.5 PREPARATION INFORMATION:** 

DATE OF CURRENT REVISION:

DATE OF LAST REVISION:

Rock Salt, Halite, Salt

Sodium Chloride

NaCl

7647-14-5

Bulk Ice Control (Product Number BIC)

The de-icing of roads, walkways and surfaces

**American Rock Salt Company LLC** 

5520 Route 63, Mount Morris, New York 14510

1-585-243-9510 1-585-243-4353

www.americanrocksalt.com

1-585-243-9544

SDS@americanrocksalt.com

August 13, 2018 (Rev 2) June 10, 2015 (Rev 1)

#### 2. HAZARD IDENTIFICATION

#### **EMERGENCY OVERVIEW:**

Product Description: This product is a white to off-white crystalline solid with no odor.

Health Hazards: Exposure to this product may cause irritation to eyes. Prolonged contact may cause skin irritation.

May cause respiratory tract irritation.

Flammability Hazards: This product is a non-flammable solid.

Reactivity Hazards: None known

Environmental Hazards: The Environmental effects of this product have not been investigated. Release of this

product is not expected to have significant adverse effects in the aquatic environment.

# 2.1 CLASSIFICATION OF SUBSTANCE OR MIXTURE IN ACCORDANCE WITH 29 CFR 1200 (OSHA HCS) AND THE EUROPEAN UNION DIRECTIVES:

This product does meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 AND the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

#### Component(s) Contributing to Classification(s)

Sodium Chloride

#### 2.2 LABEL ELEMENTS:

#### **GHS Pictograms:**



#### <u>Signal Word:</u> WARNING! GHS Hazard Classification(s):

Skin Irritant Category 2 Eye Irritant Category 2A STOT SE Category 3

#### **Hazard Statement(s):**

H315: Causes skin irritation

H319: Causes serious eye irritation H335: May cause respiratory irritation



#### Prevention Statement(s):

P261: Avoid breathing fume/mist/vapors/spray.

P264: Wash skin after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection.

#### Response Statement(s):

P302+P352: IF ON SKIN: Wash with plenty of water.

P321: Specific treatment (See section 4 of this SDS).

P332+P313: If skin irritation occurs: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

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.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER/doctor if you feel unwell.

#### **Storage Statement(s):**

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up. **Disposal Statement(s):** 

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

#### 2.3 HEALTH HAZARDS OR RISKS FROM EXPOSURE:

**SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of exposure for this product are by inhalation, skin contact, eye contact or ingestion.

#### ACUTE:

**INHALATION:** Inhalation may be irritating to the respiratory tract.

**CONTACT WITH SKIN:** Repeated or prolonged contact may cause skin irritation. **EYE CONTACT:** Contact may irritate the eyes, resulting in redness or watering.

**INGESTION:** Ingestion of a large quantity may cause gastrointestinal irritation with nausea and vomiting.

**CHRONIC**: None known

**TARGET ORGANS: Acute:** Eyes, Skin, Respiratory System Chronic: None Known

#### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT%	CAS#	EINECS#	Index #	GHS Classifications
Sodium Chloride	>99%	7647-14-5	231-598-3	Not Listed	Skin Irritant Cat 2, Eye Irritant Cat 2A, STOT SE Cat 3
YPS (Yellow Prussiate of Soda) Sodium Ferrocyanide	0.0075%	Eye Irritant Cat 2A			
Liquid Calcium Chloride (Anhydrous, 20 – 45% CaCl₂ Solution) 0.0017% 10043-52-4 233-140-8 017-013-00-2 Eye Irritant Cat 2A					
Liquid Calcium Chloride may be present on salt. Added to YPS delivery system during cold months					
Balance of other ingredients is less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					

#### 4. FIRST-AID MEASURES

#### **4.1 DESCRIPTION OF FIRST AID MEASURES:**

**EYE CONTACT:** If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation persists.

**SKIN CONTACT:** If product contacts skin, wash skin thoroughly with soap and water after handling. Seek medical attention if irritation develops and persists.

**INHALATION:** If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

**INGESTION:** If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.



#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

#### 4.2 SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Exposure to this product may cause irritation to skin and eyes. Inhalation of dust may cause irritation to respiratory system. May be harmful if swallowed with digestive tract irritation and vomiting.

**4.3 RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and eliminate overexposure.

#### 5. FIRE-FIGHTING MEASURES

#### **5.1 FIRE EXTINGUISHING MATERIALS:**

Use fire extinguishing methods below:

Water Spray:YesCarbon Dioxide:YesFoam:YesDry Chemical:YesHalon:YesOther:Any "C" Class

#### 5.2 UNUSUAL FIRE AND EXPLOSION HAZARDS:

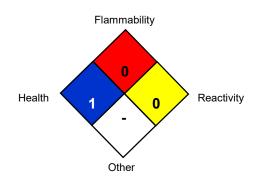
None known

Explosion Sensitivity to Mechanical Impact: No Explosion Sensitivity to Static Discharge: No

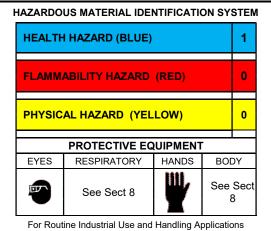
#### **5.3 SPECIAL FIRE-FIGHTING PROCEDURES:**

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

#### NFPA RATING SYSTEM







Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

#### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

See section 8.2 for Exposure Controls.

#### **6.2 ENVIRONMENTAL PRECAUTIONS:**

No specific hazards connected with leaks and splits.

#### **6.3 SPILL AND LEAK RESPONSE:**

Sweep up spilled materials and place in appropriate container for disposal or re-use. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

#### 7. HANDLING and STORAGE

#### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Establish good personal hygiene and work practices. Always wash hands and face before eating, drinking or smoking. **7.2 STORAGE AND HANDLING PRACTICES:** 

Store in a dry area with <75% relative humidity to avoid caking.



#### 7.3 SPECIFIC USES:

De-icing roads and walkways.

#### 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

#### **8.1 EXPOSURE PARAMETERS:**

Chemical Name	CAS#	ACGIH TLV	OSHA TWA
Sodium Chloride	7647-14-5	10 mg/m³ Total Dust	15 mg/m³ Total Dust

#### **8.2 EXPOSURE CONTROLS:**

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

**RESPIRATORY PROTECTION:** Not normally required when using this product. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

**EYE PROTECTION** Safety glasses or goggles are recommended to prevent eye contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

**HAND PROTECTION:** Protective gloves are recommended to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

**BODY PROTECTION:** Use body protect appropriate to task being performed. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

#### 9. PHYSICAL and CHEMICAL PROPERTIES

#### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

**APPEARANCE (Physical State) and COLOR:** This product is a white to off-white crystalline solid with no odor.

**ODOR:** None

**ODOR THRESHOLD:** Not Applicable

**pH:** Not Applicable

MELTING/FREEZING POINT: Not Applicable

**BOILING POINT:** >2575°F **FLASH POINT:** Not Applicable

**EVAPORATION RATE (n-BuAc=1):** Not Available **FLAMMABILITY (SOLID, GAS):** Not Applicable

**UPPER/LOWER FLAMMABILITY OR EXPLOSION LIMITS:** Not Applicable

VAPOR PRESSURE (mm Hg @ 20°C (68°F): 2.4 mm @ 1376°F

VAPOR DENSITY: Not Applicable RELATIVE DENSITY: Not Applicable

**DENSITY:** Not Applicable **SPECIFIC GRAVITY:** 2.165

**SOLUBILITY IN WATER:** 317 g/l @ 60°F **WEIGHT PER GALLON:** Not Available

PARTITION COEFFICENT (n-octanol/water): Not Applicable

AUTO-IGNITION TEMPERATURE: Not Applicable DECOMPOSITION TEMPERATURE: Not Available

VISCOSITY: Not Available VOC g/I / Lb/gal: 0

**9.2 OTHER INFORMATION:** 

No additional information available.



#### 10. STABILITY and REACTIVITY

#### 10.1 REACTIVITY:

This product is not reactive.

#### 10.2 STABILITY:

Stable under conditions of normal storage and use.

#### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Chemical reactions occur when this product is involved with strong acids such as sulfuric or nitric acid.

#### **10.4 CONDITIONS TO AVOID:**

Incompatible materials.

#### 10.5 MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:

Strong acids.

#### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition products include hydrochloric acid.

#### 11. TOXICOLOGICAL INFORMATION

#### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

#### **TOXICITY DATA:**

CAS#: 7647-14-5

Oral, rat: LD50 = 3,000 mg/kg;

**SUSPECTED CANCER AGENT:** None of the ingredients within this product are found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, or suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may be irritating to skin, eyes or respiratory system.

SENSITIZATION TO THE PRODUCT: This product is not considered a respiratory system or skin sensitizer.

**REPRODUCTIVE TOXICITY INFORMATION:** No information concerning the effects of this product and its components on the human reproductive system.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE: Eyes, Respiratory System and Skin

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE: None known

**ASPIRATION HAZARD: None** 

#### 12. ECOLOGICAL INFORMATION

#### 12.1 TOXICITY:

This material is water soluble and occurs naturally, and is unlikely to have any long term effect on the environment.

However, large or frequent applications or spills can have a potentially damaging effect on the environment.

#### 12.2 PERSISTENCE AND DEGRADABILITY:

This material is not organic and therefore does not undergo biodegradation.

#### **12.3 BIOACCUMULATIVE POTENTIAL:**

Based on available information, the sodium chloride present may bioaccumulate in some aquatic organisms.

#### **12.4 MOBILITY IN SOIL:**

This material is water soluble and is expected to move rapidly with surface water or ground water flows.

#### 12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

No specific data available on this product.

#### **12.6 OTHER ADVERSE EFFECTS:**

No specific data available on this product.

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

#### 12.7 WATER ENDANGERMENT CLASS:

Water endangering in accordance with EU Guideline 91/155-EWG. Not determined

#### 13. DISPOSAL CONSIDERATIONS

#### **13.1 WASTE TREATMENT METHODS:**

Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.



#### 13.2 EU Waste Code:

Not determined.

#### 14. TRANSPORTATION INFORMATION

#### US DOT, IATA, IMO, ADR:

**U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:** This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

14.1 PROPER SHIPPING NAME: Non-Regulated Material

14.2 HAZARD CLASS NUMBER and DESCRIPTION:None14.3 UN IDENTIFICATION NUMBER:None14.4 PACKING GROUP:None14.5 DOT LABEL(S) REQUIRED:None

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER: None

RQ QUANTITY: None

**14.6 MARINE POLLUTANT:** None of the components of this product are designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

#### 14.7 SPECIAL PRECAUTIONS FOR USER:

Avoid exposure

#### 14.8 INTERNATIONAL TRANSPORTION:

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods.

<u>INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO)</u>: This product is not considered as dangerous goods.

#### 14.9 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND IBC CODE:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

#### 15. REGULATORY INFORMATION

#### 15.1 UNITED STATES REGULATIONS:

**U.S. SARA REPORTING REQUIREMENTS:** The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for the components of this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

**U.S. TSCA INVENTORY STATUS:** The components of this product are listed on the TSCA Inventory or are exempted form listing.

OTHER U.S. FEDERAL REGULATIONS: None

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):** Ingredients within this product are not on the Proposition 65 Lists.

#### **15.2 CANADIAN REGULATIONS:**

**CANADIAN DSL/NDSL INVENTORY STATUS:** All components are DSL Listed, NDSL Listed and/or are exempt from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

#### CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product has been classified per WHMIS 2015.

#### **15.3 EUROPEAN ECONOMIC COMMUNITY INFORMATION:**

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives. See Section 2 for full Details.

#### **15.4 AUSTRALIAN INFORMATION FOR PRODUCT:**

The components of this product are listed on the International Chemical Inventory list.



# <u>SAFETY DATA SHEET</u>

#### **15.5 JAPANESE INFORMATION FOR PRODUCT:**

#### JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS:

The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

#### JAPANESE ENCS INVENTORY:

The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

#### POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW:

No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

#### **15.6 INTERNATIONAL CHEMICAL INVENTORIES:**

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed Philippines Inventory if Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftliste List of Toxic Substances: Listed

U.S. TSCA: Listed

#### 16. OTHER INFORMATION

#### 16.1 ABBREVIATIONS AND ACRONYMS:

ARD: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

PREPARED BY: Chris Eigbrett (MSDS to GHS Compliance)

All statements, technical information and recommendations contained herein are, to the best of our knowledge, reliable and accurate, however, no warranty, either expressed or implied, is made with respect thereto, nor will any liability be assumed for damages resultant from the use of the material described.

It is the responsibility of the user to comply with all applicable federal, state and local regulations. It is also the responsibility of the user to maintain a safe workplace. The user should consider the health hazards and safety information provided herein as a guide and should take the necessary steps to instruct employees and to develop work practice procedures to ensure a safe work environment.

This information is not intended as a license to operate under, or a recommendation to practice or infringe upon any patent of the company or others covering any process, composition of matter or use.

#### **END OF SDS SHEET**



#### YELLOW PRUSSIATE OF SODA

American Rock salt is treated with Yellow Prussiate of Soda for anti-caking requirements.

#### 1. DESCRIPTION

The Chemical name for this additive is Sodium Ferrocyanide, a non-toxic food grade additive. The application is in liquid form at a ratio of 75 PPM.

#### 2. SOLUBILITY

Yellow Prussiate of Soda is 100% soluble in water.

#### 3. PHOTODECOMPOSTION

Yellow Prussiate of Soda in the outer crust of untarped or uncovered salt will decompose in ultra violet light or sunlight although this reaction is a slow process.

**4.** YPS is dissolved in water and applied as a spray to the salt on the conveyor system before being loaded into trucks, rail cars or stored in stockpiles.

#### Primary analytical method

#### 1. PRINCIPLE

Sodium Ferrocyanide (YPS) is converted to Ferric Ferrocyanide (Prussian Blue) in the presence of Ferrous Sulfate and read on a spectrophotometer at 725nm. Free Sodium Ferrocyanide (YPS) is readily converted to Prussian Blue and directly read on the spectrophotometer. However, under certain conditions, YPS may be converted to an insoluble form of Ferrocyanide which will not be detected by the free YPS method. In this case, to accurately determine the YPS concentration, an alkaline digestion is used, and the YPS is reported as Total YPS.

#### 2. ESSENTIAL INSTRUMENTATION and REAGENTS

Spectrophotometer capable of measurement at 725nm, measuring cells conforming to instrument sample holder,  $\frac{1}{2}$  to 2 inches in width.

Sodium Ferrocyanide decahydrate  $-Na_4Fe$  (CN) $_6-10H_2O$  Ferrous Sulfate (5% solution prepared daily)  $-FeSO_4-7H_2O$  Sulfuric Acid concentrated  $-H_2SO_4$  2% Sodium Hydroxide (wt/wt) NaOH 1:4 Hydrochloric Acid -HCI

#### 3. PROCEDURE

Standard Curve Preparation – A 1000 ppm stock standard can be prepared using 1.5927 g
 Sodium Ferrocyanide decahydrate dissolved in distilled water and diluted to 1 liter. Prepare a 10
 ppm working standard from this stock solution. Transfer the appropriate aliquot of the working
 standard to each of ten numbered 100 ml. volumetric flasks as indicated in the following table.

Flask#	mls of working solution to add	Equivalent Micrograms Anhydrous YPS per ml.
1	0 (Blank)	0.0
2	2	0.2
3	3	0.3
4	5	0.5
5	8	0.8
6	10	1.0
7	15	1.5
8	20	2.0
9	30	3.0
10	40	4.0

- Add 5 ml. of 5% Ferrous Sulfate solution to each flask. Dilute to volume with brine solution
  prepared using YPS-free salt (see Reagent Preparation). Stopper, mix well and allow 15 minutes
  for color development. Immediately thereafter, zero the spectrophotometer with the blank and
  record the absorbances for the remaining concentration levels. Plot a standard curve of
  absorbance vs. concentration. Using linear regression, determine the correlation coefficient and
  the slope of the curve.
- A method blank, prepared using the following procedure, is required for each of the following YPS methods. Prepare the blank by dissolving 25 g of YPS free salt in 80 ml. of distilled water. The solution should be clear. However, if turbidity persists, filter the solution through two Gelman type "E" glass fiber filters. Add 5 ml. of 5% Ferrous Sulfate solution to the blank and dilute to volume with distilled water. Stopper, mix well and allow 15 minutes for color development. Immediately, zero spectrophotometer with the method blank and run a check standard to determine the validity of the calibration curve.

#### 4. FREE YPS (ROCK SALT)

Weigh approximately 150 g of salt to the nearest hundredth of a gram and transfer the salt to a 1500 ml. beaker. Add 750 ml. distilled water and stir until the salt dissolves. Filter through two Gelman Type "E" glass fiber filters. The solution should be clear, however if turbidity persists filter the solution through a finer pore filter. Dilute the solution to 1 liter using distilled water and mix well. Add 5 ml. of 5% Ferrous Sulfate solution to a 100 ml. volumetric flask and add 5 ml. sample aliquots until a blue color appears. Record the ml. added and dilute to volume with distilled water. Stopper, mix well and allow 15 minutes for color development. Read the sample immediately and record the absorbance. Using the sample absorbance, the slope of the standard curve and the dilutions used to prepare the sample the concentration of YPS in the salt can be determined (refer to sample calculations).

#### 5. TOTAL YPS (ROCK SALT)

Weigh approximately 150 g of salt to the nearest hundredth of a gram and transfer the salt to a 1500 ml. beaker. Add sufficient 2% Sodium Hydroxide to cover the salt and stir for 10 minutes. Then add 700 ml. distilled water and stir until the salt dissolves. Filter the solutions through two Gelman Type "E" glass fiber filters. The solution should be clear, however, if turbidity persists filter the solution through a finer pore filter. In a fume hood, adjust the pH of the solution to between 7.0-9.0 with 1:4 hydrochloric acid. Quantitatively transfer the solution to a liter volumetric flask, dilute to volume with distilled water and mix well. Add 5 ml. of 5% Ferrous Sulfate solution to a 100 ml. volumetric flask and add 5 ml. sample aliquots

until a blue color appears. Record the ml. added and dilute to volume with distilled water. Stopper, mix well and allow 15 minutes for color development. Read the sample immediately and record the absorbance. Using the sample absorbance, the slope of the standard curve and the dilutions used to prepare the sample the concentration of YPS in the salt can be determined (refer to sample calculations).

Total YPS – Free YPS = YPS converted to Prussian Blue (Bound).

#### 6. SAMPLE CALCULATION

Total YPS

Sample Size 150.00 g ml. aliquot to blue 25
Slope of the standard curve 0.1500
Sample Absorbance 0.035

Divide the sample absorbance by the slope to determine gamma, which represents the micrograms (ug) of YPS per ml. of solution in the flask. Divide gamma by the total dilution factor (D.F.) as calculated below, to determine the concentration in parts per million (ppm) of YPS in the salt.

Abs.	Ug/ml	D.F.	Ppm YPS
0.035	0.2333	0.0375	6.2

Step 1 (0.035) / (0.1500) = 0.2333 ug/ml (gamma) Step 2 (0.2333 ug/ml) / (0.0375 g/ml) = 6.2 ug YPS/g salt (ppm)

Alternately, the concentration of the sample may be derived directly from the graph of the standard curve by taking the concentration corresponding to the sample absorbance and then dividing this value by the dilution factor (D.F.) to obtain the concentration of YPS in the salt.

#### 7. REAGENT PREPARATION

Brine solution for standard curve – Dissolve 250 g of YPS-free salt in 800 ml. of distilled; deionized water. If the solution appears cloudy, filter the brine through a glass fiber filter, then dilute to 1 liter.

Ferrous Sulfate Solution -5% (wt/wt) - (solution should be prepared fresh daily) - In a 100 ml. volumetric flask, dissolve 5 g Ferrous Sulfate in 80 ml. distilled water. In a fume hood, add 2 ml. concentrated sulfuric acid and dilute to volume.

Sodium Hydroxide – 2% (wt/wt) – in a 1 liter volumetric flask, dissolve 20 g sodium hydroxide in 800 ml. distilled water, then dilute to volume.

1:4 Hydrochlorice Acid – In a fume hood, carefully add 25 ml. of concentrated hydrochloric acid to 75 ml. of distilled, deionized water. Mix well.

Date of Revision: 11/27/2017 **Sodium Ferrocyanide** 

# Section 1 - Chemical Product and Company Identification

#### WEGO CHEMICAL GROUP

239 Great Neck Road - Great Neck, NY 11021 - USA Tel: +1 (516) 487 3510 - Fax: +1 (516) 487 3794

sales@wegochem.com - wegochem.com

Product/Chemical Name: Sodium Ferrocyanide

Chemical Formula: Na<sub>4</sub>Fe(CN)<sub>6</sub>·10H<sub>2</sub>O

**CAS Number:** 14434-22-1

Other Designations: Sodium Ferrocyanide decahydrate; sodium hexacyanoferrate; YPS

**Derivation:** 

General Use: Manufacture of sodium ferricyanide, blue pigments, blueprint paper, anti-caking agent for salt, ore flotation,

pickling metals, polymerization catalyst, photographic fixing agent.

Emergency Telephone: (ChemTel) Contract MIS0000335; 800 255-3924; INTL 813 248-0585

#### **Section 2 - Hazards Identification**

★☆☆☆ Emergency Overview ☆☆☆☆
MAY CAUSE EYE AND SKIN IRRITATION. AVOID CONTACT WITH EYES, SKIN AND
CLOTHING. WASH THOROUGHLY AFTER HANDLING.MAY BE HARMFUL IF
SWALLOWED.

#### **Potential Health Effects**

Primary Entry Routes: Inhalation, Ingestion

Target Organs: None listed
HAZARDS IDENTIFICATION

**Label elements** 

None

**Hazard symbol** 

None

Signal word

None

Hazard statement

The mixture does not meet the criteria for classification.

**Precautionary statement** 

Prevention

Observe good industrial hygiene practices.

Response

Wash hands after handling.

Storage

Store away from incompatible materials.

Disposal

Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None

**Acute Effects** 

**Inhalation:** May cause respiratory tract irritation. May cause anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis, weak and irregular heartbeat, collapse, unconsciousness, convulsions, coma and death.

**Eye:** May cause mild eye irritation. **Skin:** May cause skin irritation.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. **Carcinogenicity:** IARC, NTP, and OSHA do not list sodium ferrocyanide as a carcinogen.

**Medical Conditions Aggravated by Long-Term Exposure:** 

Chronic Effects: unknown

# **Section 3 - Composition / Information on Ingredients**

Ingredient Name	CAS Number	CAS Number EINECS/ELINCS	
Sodium Ferrocyanide	14434-22-1	237-081-9	100

Limit values: No limit values have been established for this product for use in the USA and Canada.

	OSHA	PEL	ACGIH	TLV	NIOSH	REL	NIOSH
Ingredient	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Sodium	none estab.						
Ferrocyanide							

#### **Section 4 - First Aid Measures**

**Inhalation:** Supply fresh air. If required, provide artificial respiration.

**Eye Contact:** Rinse opened eye for several minutes under running water. Then consult a doctor if irritation persists. **Skin Contact:** Immediately wash with water and soap and rinse thoroughly. Seek medical advice if irritation persists.

**Ingestion:** If material is swallowed, induce vomiting if patient is conscious. Never give anything by mouth to an unconscious

person. Seek medical advice.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: Treat symptomatically and supportively.

# **Section 5 - Fire-Fighting Measures**

Flash Point: not applicable

Flash Point Method: Burning Rate:

Auto-ignition Temperature: not determined

LEL: not determined UEL: not determined

Flammability Classification: Product is not flammable.

Extinguishing Media: Product is not flammable. Use firefighting measures that suit the surrounding fire.

**Unusual Fire or Explosion Hazards:** none **Hazardous Combustion Products:** 

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 protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Avoid raising dust. Eliminate flammables. Eliminate all ignition sources. Dispose contaminated material as waste according to official regulations.

Large Spills

**Containment:** For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Water, if necessary with cleansing agents.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

# **Section 7 - Handling and Storage**

Handling Precautions: Keep container tightly sealed.

Storage Requirements: Store in a cool, dry, well-ventilated area away from incompatible substances.

# **Section 8 - Exposure Controls / Personal Protection**

#### **Engineering Controls:**

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

**Administrative Controls:** 



**Respiratory Protection:** Seek professional advice prior to respirator selection and use. 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 an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**Protective Clothing/Equipment:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area. **Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

# **Section 9 - Physical and Chemical Properties**

Physical State: solid

Appearance and Odor: yellow semi-transparent

crystals/odorless

Odor Threshold: not determined

Vapor Pressure: N/A Vapor Density (Air=1): Formula Weight: 484.06

Density/Specific Gravity (H<sub>2</sub>O=1, at 4 °C): 1.458

pH: N/A

Flash Point: not applicable Flash Point Method:

Burning Rate: not determined

Auto-ignition Temperature: not determined

Water Solubility: 318.5 g/l @ 20 °C Other Solubilities: not determined

**Boiling Point: N/A** 

Freezing/Melting Point: N/A

**Decomposition Point:** 815 °F (435 °C)

Viscosity: not determined Refractive Index: not determined Surface Tension: not determined

% Volatile: N/A
Evaporation Rate: N/A
LEL: not determined
UEL: not determined

# **Section 10 - Stability and Reactivity**

**Stability:** Sodium Ferrocyanide is stable at room temperature in closed containers under normal storage and handling conditions. **Polymerization:** Hazardous polymerization cannot occur.

Chemical Incompatibilities: Oxidizing agents, ammonia, chromic acid and strong acids.

**Conditions to Avoid:** incompatibilities. ACIDS: Evolution of highly toxic and flammable hydrogen cyanide gas. OXIDIZERS (STRONG): Fire and explosion hazard.

**Hazardous Decomposition Products:** Thermal oxidative decomposition of Sodium Ferrocyanide can produce oxides of nitrogen, carbon monoxide, carbon dioxide and hydrogen cyanide.

# **Section 11- Toxicological Information**

#### SODIUM FERROCYANIDE:

ADDITIONAL DATA: Because of the strong chemical bond between the cyanide group and the iron, ferrocyanides do not release cyanide under normal conditions. However, certain industrial processes may release hydrogen cyanide which is a chemical asphyxiant.

**Toxicity** 

Oral (rat) LD<sub>50</sub>: 5100 mg/kg

**HEALTH EFFECTS:** 

INHALATION:

ACUTE EXPOSURE: SODIUM FERROCYANIDE: May cause irritation to the respiratory tract. Ferrocyanides have a low order of toxicity. However, certain industrial processes may release hydrogen cyanide which is a chemical asphyxiant.

CHRONIC EXPOSURE: SODIUM FERROCYANIDE: No data available.

SKIN CONTACT:

**ACUTE EXPOSURE:** 

SODIUM FERROCYANIDE: May cause irritation.

CHRONIC EXPOSURE:

SODIUM FERROCYANIDE: No specific data available. No dermatitis was reported in workers handling potassium ferrocyanide over a number of years.

EYE CONTACT:

**ACUTE EXPOSURE:** 

SODIUM FERROCYANIDE: Dust may cause irritation.

CHRONIC EXPOSURE:

SODIUM FERROCYANIDE: No data available.

**INGESTION:** 

ACUTE EXPOSURE: SODIUM FERROCYANIDE: The reported probable lethal dose in humans is 0.5-5.0 gm/kg.

Ferrocyanide salts are rapidly excreted in urine without metabolic alteration.

CHRONIC EXPOSURE: SODIUM FERROCYANIDE: No data available.

\* See NIOSH, RTECS, for additional toxicity data.

## **Section 12 - Ecological Information**

Ecotoxicity: data not available.

Environmental Fate: data not available.

Environmental Degradation: data not available. Soil Absorption/Mobility: data not available.

# **Section 13 - Disposal Considerations**

**Disposal:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

**Disposal Regulatory Requirements:** 

# **Section 14 - Transport Information**

## Not regulated for transportation

US DOT(49 CFR 172.101):	IATA
PSN:	PSN:
Hazard Class:	Hazard Class:
UN Number:	UN Number:
Packing Group:	Packing Group:
ГDG	IMDG/IMO
PSN:	PSN:
Hazard Class:	Hazard Class:
UN Number:	UN Number:
Packing Group:	Packing Group:

# **Section 15 - Regulatory Information**

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):

Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):

Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No CHRONIC: No FIRE: No REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated. OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

**CANADIAN REGULATIONS:** 

WHMIS CLASSIFICATION: D2B. Material causing toxic effects (TOXIC): No products were found.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory. TSCA 12(b) EXPORT NOTIFICATION: Not listed.

#### **Section 16 - Other Information**

**Disclaimer:** All information, recommendations and suggestions appearing herein are based upon sources believed to be reliable: However, it is the user's responsibility to determine the safety, toxicity and suitability for its own use of this product. WEGO CHEMICAL GROUP DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE USE BY OTHERS OF THIS PRODUCT.

