

Printing date 08/25/2021

Reviewed on 01/24/2020

Page 1/15

Product identif		
Trade name: <u>E</u>	arian Sediment Solution	
Article number	CRM-ES	
Details of the s	plier of the safety data sheet	
Manufacturer/		
High-Purity Sta	lards	
7221 Investmen	Drive, North Charleston, SC 29418 United States	
Telephone: +1-	3-767-7900	
Fax: +1-843-70	7906	
highpuritystand	ds.com	
Email: info@hi	puritystandards.com	
Information de	rtment: Product safety department	
Emergency tele	none number:	
INFOTRAC		
Emergency tele	one numbers1-800-535-5053	
	telephone numbers 1-352-323-3500	

2 Hazard(s) identification

· Classification of the substance or mixture

GHS05 Corrosion

Met. Corr.1H290May be corrosive to metals.Skin Corr. 1AH314Causes severe skin burns and eye damage.Eye Dam. 1H318Causes serious eye damage.

· Label elements

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



· Signal word Danger

• *Hazard-determining components of labeling: nitric acid*

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

• **Precautionary statements** Keep only in original container.

(Contd. on page 2)



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

(Contd. of page 1) Do not breathe dusts or mists. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. *IF INHALED: Remove person to fresh air and keep comfortable for breathing.* 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.* Specific treatment (see on this label). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Store locked up. Store in corrosive resistant container with a resistant inner liner. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 3Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH 3 Health = 3FIRE 0 Fire = 0**REACTIVITY O** Reactivity = 0· Other hazards · Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

• Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:	
7697-37-2 nitric acid	4.0%
7732-18-5 water, distilled, conductivity or of similar purity	95.54065256%
· Chemical identification of the substance/preparation	
7440-21-3 silicon	0.3%
7429-90-5 aluminium	0.07%
7439-89-6 iron	0.035%
7440-23-5 sodium	0.02%
	(Contd. on page 3)

Page 2/15



Printing date 08/25/2021

Reviewed on 01/24/2020

Page 3/15

Trade name: Estuarian Sediment Solution

	(Contd. of page 2
7440-09-7 potassium	0.015%
7439-95-4 magnesium	0.01%
7440-70-2 calcium	0.008%
7722-76-1 Ammonium dihydrogenphosphate	0.0005%
7439-96-5 manganese	0.0004%
7440-66-6 zinc	0.00015%
7440-62-2 vanadium	0.0001%
7440-38-2 arsenic	0.00001%
7440-41-7 beryllium	0.000002%
7440-43-9 cadmium	0.0000004%
7440-48-4 cobalt	0.00001%
7440-47-3 chromium	0.00008%
7440-50-8 copper	0.00002%
7440-02-0 nickel	0.00003%
7440-36-0 antimony	0.0000004%
7782-49-2 selenium	0.000005%
7440-29-1 thorium	0.00001%
7439-92-1 lead	0.00003%

4 First-aid measures

· Description of first aid measures

- · General information: Immediately remove any clothing soiled by the product.
- *After inhalation:* In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- \cdot Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

(Contd. on page 4)

US –



Printing date 08/25/2021

Trade name: Estuarian Sediment Solution

• Advice for firefighters

• Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

	iratory protective device. ctive equipment. Keep unprotected persons away.	
	<i>ntal precautions:</i> Do not allow to enter sewers/ surface or ground water.	
	nd material for containment and cleaning up:	
	n liquid-binding material (sand, diatomite, acid binders, universal binders, sa	wdust).
	lizing agent. ntaminated material as waste according to item 13.	
	quate ventilation.	
	to other sections	
	7 for information on safe handling.	
	8 for information on personal protection equipment.	
	13 for disposal information. Action Criteria for Chemicals	
PAC-1:	internet of the internet of th	
7697-37-2	nitric acid	0.16 ppm
7440-21-3	silicon	45 mg/m^3
7439-89-6	iron	3.2 mg/m ³
7440-23-5	sodium	13 mg/m ³
7440-09-7	potassium	2.3 mg/m ³
7439-95-4	magnesium	18 mg/m³
7722-76-1	Ammonium dihydrogenphosphate	17 mg/m³
7439-96-5	manganese	3 mg/m ³
7440-66-6	zinc	6 mg/m ³
7440-62-2	vanadium	3 mg/m ³
7440-47-3	chromium	1.5 mg/m ³
7440-02-0	nickel	$4.5 \ mg/m^3$
7439-92-1		0.15 mg/m ³
7440-50-8		3 mg/m ³
7782-49-2		0.6 mg/m ³
7440-29-1	thorium	30 mg/m ³
7440-38-2		1.5 mg/m ³
7440-41-7	-	0.0023 mg/m
7440-48-4	cobalt	0.18 mg/m ³
7440-43-9	cadmium	$0.10 \ mg/m^3$

Page 4/15

(Contd. of page 3)

Reviewed on 01/24/2020

— US



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

7440-36-0 antimony	(Contd. of page 1.5 mg/m^3
PAC-2:	
7697-37-2 nitric acid	24 ppm
7440-21-3 silicon	100 mg/m ³
7439-89-6 iron	35 mg/m ³
7440-23-5 sodium	140 mg/m ³
7440-09-7 potassium	25 mg/m ³
7439-95-4 magnesium	200 mg/m ³
7722-76-1 Ammonium dihydrogenphosphate	190 mg/m ³
7439-96-5 manganese	$5 mg/m^3$
7440-66-6 zinc	21 mg/m ³
7440-62-2 vanadium	5.8 mg/m ³
7440-47-3 chromium	17 mg/m ³
7440-02-0 nickel	50 mg/m^3
7439-92-1 lead	120 mg/m ³
7440-50-8 copper	33 mg/m ³
7782-49-2 selenium	6.6 mg/m ³
7440-29-1 thorium	330 mg/m ³
7440-38-2 arsenic	17 mg/m ³
7440-41-7 beryllium	0.025 mg/m
7440-48-4 cobalt	$2 mg/m^3$
7440-43-9 cadmium	0.76 mg/m ³
7440-36-0 antimony	13 mg/m ³
PAC-3:	
7697-37-2 nitric acid	92 ppm
7440-21-3 silicon	630 mg/m ³
7439-89-6 iron	150 mg/m ³
7440-23-5 sodium	870 mg/m ³
7440-09-7 potassium	150 mg/m ³
7439-95-4 magnesium	1,200 mg/m
7722-76-1 Ammonium dihydrogenphosphate	1,100 mg/m
7439-96-5 manganese	1,800 mg/m
7440-66-6 zinc	120 mg/m ³
7440-62-2 vanadium	35 mg/m ³
7440-47-3 chromium	99 mg/m ³
7440-02-0 nickel	99 mg/m ³
7439-92-1 lead	700 mg/m ³

Page 5/15



Page 6/15

Safety Data Sheet acc. to OSHA HCS

Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

		(Contd. of page 5)
7440-50-8	**	200 mg/m³
7782-49-2		40 mg/m ³
7440-29-1		$2,000 \text{ mg/m}^3$
7440-38-2		100 mg/m³
7440-41-7	· · ·	0.1 mg/m ³
7440-48-4	cobalt	20 mg/m ³
7440-43-9	cadmium	$4.7 \ mg/m^3$
7440-36-0	antimony	80 mg/m ³

7 Handling and storage

· Handling:

- · Precautions for safe handling
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

7697-37-2 nitric acid

- PEL Long-term value: 5 mg/m³, 2 ppm
- *REL* Short-term value: 10 mg/m³, 4 ppm
- Long-term value: 5 mg/m³, 2 ppm
- *TLV* Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

• *Additional information:* The lists that were valid during the creation were used as basis.

(Contd. on page 7)



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

- · Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid contact with the eyes and skin.
- Avoia contact with the eyes and s
- Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation · *Material of gloves*

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

Liquid

colorless Characteristic

Not determined. Not determined.

- General Information
- · Appearance: Form:
- Color:
- · Odor:
- · Odor threshold:
 - reshold:
- · pH-value:

(Contd. on page 8)

US

Page 7/15

(Contd. of page 6)



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

		(Contd. of page '
Change in condition		
Melting point/Melting range:	Undetermined. $100 \text{sc} (212 \text{sc})$	
Boiling point/Boiling range:	100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	
Density at 20 °C (68 °F):	1.02785 g/cm³ (8.57741 lbs/gal)	
Bulk density:	1,026 kg/m ³	
Relative density	Not determined.	
· Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
Partition coefficient (n-octanol/wate	er): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Water:	95.5 %	
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	0.5 %	
Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.

(Contd. on page 9)

Page 8/15



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- on the eye:
- Strong caustic effect.
- Strong irritant with the danger of severe eye injury.
- Sensitization: No sensitizing effects known.
- · Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations: Corrosive
- Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

7440-47-3	chromium	3
7440-02-0	nickel	21
7439-92-1	lead	21
7782-49-2	selenium	3
7440-29-1	thorium	1
7440-38-2	arsenic	1
7440-41-7	beryllium	1
7440-48-4	cobalt	2.
7440-43-9	cadmium	1
NTP (Nati	onal Toxicology Program)	
7440-02-0	nickel	i i i i i i i i i i i i i i i i i i i
7439-92-1	lead	1
7440-38-2	arsenic	
7440-41-7	beryllium	
7440-48-4	cobalt	1
7440-43-9	cadmium	
OSHA-Ca	(Occupational Safety & Health Administration)	
7440-38-2	arsenic	

(Contd. of page 8)

Page 9/15



Page 10/15

(Contd. of page 9)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

7440-43-9 cadmium

12 Ecological information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- *Persistence and degradability No further relevant information available.*
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- *Mobility in soil* No further relevant information available.
- Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- · Results of PBT and vPvB assessment
- *PBT:* Not applicable.
- **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

UN-Number DOT, ADR, IMDG, IATA	UN3264
	0113204
UN proper shipping name	
DOT	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)
ADR	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S
	(NITRIC ACID)
IMDG, IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRI
,	ACID

US –



Printing date 08/25/2021

Trade name: Estuarian Sediment Solution

Reviewed on 01/24/2020

		(Contd. of page
Transport hazard class(es)		
DOT		
FE		
CORROSIVE		
8		
Class	8 Corrosive substances	
Label	8	
ADR		
di Tel		
8		
Class	8 (C1) Corrosive substances	
Label	8	
IMDG, IATA		
A		
FR		
8		
Class	8 Corrosive substances	
Label	8	
Packing group		
DOT, ADR, IMDG, IATA	III	
Environmental hazards:	Not applicable.	
Special precautions for user Hazard identification number (Kemler code	Warning: Corrosive substances	
EMS Number:	<i>F-A,S-B</i>	
Segregation groups	Acids	
Stowage Category	A	
Stowage Code	SW2 Clear of living quarters.	
Transport in bulk according to Annex II of		
MARPOL73/78 and the IBC Code	Not applicable.	
	approvoio.	
Transport/Additional information:		
DOT		
Quantity limitations	On passenger aircraft/rail: 5 L	
	On cargo aircraft only: 60 L	

Page 11/15

US



Printing date 08/25/2021

Reviewed on 01/24/2020

Page 12/15

Trade name: Estuarian Sediment Solution

	(Contd. of page 11)
ADR	
· Excepted quantities (EQ)	Code: El
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
·IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities $(\widetilde{E}Q)$	Code: El
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

	nitric acid	
	3 (Specific toxic chemical listings):	
7697-37-2	nitric acid	
7429-90-5	aluminium	
7439-96-5	manganese	
7440-66-6	zinc	
7440-62-2	vanadium	
7440-47-3	chromium	
7440-02-0	nickel	
7439-92-1	lead	
7440-50-8	copper	
7782-49-2	selenium	
7440-38-2	arsenic	
7440-41-7	beryllium	
7440-48-4	cobalt	
7440-43-9	cadmium	
7440-36-0	antimony	
TSCA (Tox	xic Substances Control Act):	
	nents have the value ACTIVE.	
Hazardous	s Air Pollutants	
7439-96-5	manganese	



Page 13/15

Safety Data Sheet acc. to OSHA HCS

Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

7420 02 1	land	(Contd. of page
7439-92-1 7440-48-4		
Proposition Chamiagla	known to cause cancer:	
7440-02-0		
7439-92-1		
7440-38-2		
7440-33-2		
7440-41-7	-	
7440-43-9		
Chemicais 7439-92-1	known to cause reproductive toxicity for females.	
Chemicals 7439-92-1	known to cause reproductive toxicity for males:	
7440-43-9		
	known to cause developmental toxicity:	
7439-92-1		
7440-43-9	cadmium	
Carcinoge	nic categories	
EPA (Envi	ronmental Protection Agency)	
7439-96-5	manganese	D
7440-66-6	zinc	D, I, II
7440-47-3	chromium	D
7439-92-1	lead	B2
7440-50-8	copper	D
7782-49-2		D
7440-38-2		A
7440-41-7		B1, K/L(inh), CBD(oral
7440-43-9	cadmium	B1
TLV (Thre	shold Limit Value established by ACGIH)	
7429-90-5		A
7440-47-3	chromium	A
7440-02-0	nickel	A
7439-92-1	lead	A
7440-38-2	arsenic	A
7440-41-7	beryllium	A
7440-48-4	cobalt	A

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Page 14/15

Safety Data Sheet acc. to OSHA HCS

Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

	(Contd. of page 13)
7440-43-9 cadmium	A2
·NIOSH-Ca (National Institute for Occupational Safety and Health)	
7440-02-0 nickel	
7440-38-2 arsenic	
7440-41-7 beryllium	
7440-43-9 cadmium	
• GHS label elements The product is classified and labeled according to the Globally Harmoni	zed System (GHS).
· Hazard pictograms	
CHSOS	
GHS05 • <i>Signal word</i> Danger	
· Hazard-determining components of labeling:	
nitric acid	
· Hazard statements	
H290 May be corrosive to metals.	
H314 Causes severe skin burns and eye damage.	
· Precautionary statements	
Keep only in original container.	
Do not breathe dusts or mists.	
Wash thoroughly after handling.	
Wear protective gloves/protective clothing/eye protection/face protection.	
If swallowed: Rinse mouth. Do NOT induce vomiting.	
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/sho	wer.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if pre-	sent and easy to do.
Continue rinsing.	
Immediately call a poison center/doctor.	
Specific treatment (see on this label).	
Wash contaminated clothing before reuse.	
Absorb spillage to prevent material damage.	
Store locked up.	
Store in corrosive resistant container with a resistant inner liner.	
Dispose of contents/container in accordance with local/regional/national/international regula • Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	vtions.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Department issuing SDS: Environment protection department.

(Contd. on page 15)

US



Printing date 08/25/2021

Reviewed on 01/24/2020

Trade name: Estuarian Sediment Solution

	(Contd. of page 14)
Contact:	
High-Purity Standards	
Tel: 843-767-7900	
Fax: 843-767-7906	
Date of preparation / last revision 08/25/2021 / -	
Abbreviations and acronyms:	
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement conce.	rning 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	
EINECS: European Inventory of Existing Commercial Chemical Substances	
ELINCS: European List of Notified Chemical Substances	
CAS: Chemical Abstracts Service (division of the American Chemical Society)	
NFPA: National Fire Protection Association (USA)	
HMIS: Hazardous Materials Identification System (USA)	
VOC: Volatile Organic Compounds (USA, EU)	
PBT: Persistent, Bioaccumulative and Toxic	
vPvB: very Persistent and very Bioaccumulative	
NIOSH: National Institute for Occupational Safety	
OSHA: Occupational Safety & Health TLV: Threshold Limit Value	
PEL: Permissible Exposure Limit REL: Recommended Exposure Limit	
Met. Corr.1: Corrosive to metals – Category 1	
Skin Corr. 1A: Skin corrosion/irritation – Category 1A	
Eye Dam. 1: Serious eye damage/eye irritation – Category 1	

Page 15/15