

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: #107-Calcium Buffer Solution

Product Use: A Mixture of Analytical Testing Reagent

24-Hour Emergency Response Number:

Manufactured By:



Hawkins, Inc.

2381 Rosegate

Roseville, MN 55113

Phone: 800-328-5460

800-424-9300 CHEMTREC®

To the best of our knowledge, this Safety Data Sheet is prepared to comply with US OSHA 29 CFR 1910.1200 and other governmental agencies both domestic and foreign. Hazard and precautionary statements are based on maximum listed concentrations of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200) and/or other governmental agencies.

DOT Label(s)	GHS Pictogram(s)	HMIS	Personal Protective Equipment(s)
Corrosive 	Corrosive 		 Safety Glasses Gloves Protective Apron

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

GHS CLASSIFICATION/LABEL ELEMENTS

Signal Word	GHS Pictogram(s)	Hazard Statements	Precautionary Statements
"DANGER"	Corrosive 	H302-Harmful if swallowed. H312-Harmful in contact with skin. H314-Causes severe skin burns and eye damage. H413-May cause long lasting harmful effects to aquatic life.	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not get in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required.

3. PRODUCT INGREDIENTS

Hazardous Components	% by Wt.	CAS Number	Hazard Statements (Section 15)	GHS Hazard Pictogram(s)
Sodium Hydroxide	0-10	1310-73-2	H302-Harmful if swallowed. H312-Harmful in contact with skin H314- Causes severe skin burns and eye damage. H412-Harmful to aquatic life with long lasting effects.	
Non Hazardous Ingredient	90-100			
Total	100			

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Call a physician if any difficulties persist.
Eyes:	Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support.
Skin:	Wash affected areas thoroughly with soap and water for at least 15 minutes. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention if any irritation persists.
Ingestion	If person can swallow, give 2 glasses of water to drink. DO NOT INDUCE VOMITING! After first aid, seek appropriate in-plant, paramedic, or community medical support. Never give anything by mouth to an unconscious person.
<i>After first aid, get appropriate in-plant, paramedic, or community medical support.</i>	

5. FIRE FIGHTING MEASURES

Flammability Classification:	Non Flammable
Suitable Extinguishing Media:	Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical
Unusual Fire or Explosion Hazards:	None known other than material can splatter above 100°C/212°F.
Hazardous Combustion Products:	Unknown but carbon monoxide may be released on burning.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Small Spills:	Absorb spill with paper towel or similar absorbent; or flush to sewer or ground with large amounts of water.

Large Spills:	For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Absorb spill with vermiculite, oil dry or similar non-reactant absorbent. Solidified product represents no environmental hazard.
Containment:	
Cleanup:	Accumulate the absorbed materials and dispose of according to federal, state and local regulations.
Environmental Precautions:	Follow applicable OSHA/CERCLA or any other regulations (29 CFR 1910.120) as well as any state or local regulations that may apply.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices. Wash thoroughly after handling.
Conditions for safe Storage:	Do not store in direct sunlight. Store in a tightly closed container. Store in a cool dry, well ventilated area. Do not store this material near any strong acids, bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes.
Regulatory Requirements:	Store materials according to all local, state and federal guidelines that are established for non-regulated chemical products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS Number	OSHA PEL/TWA STEL	ACGIH TLV/TWA STEL	Other
Sodium Hydroxide	1310-73-2	2 mg/m3	2 mg/m3	

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.

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 vessel, 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.

Personal Protective Equipment (PPE): 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. At a minimum wear safety glasses with side shields as well as chemically protective gloves and aprons to prevent prolonged or repeated skin contact.

Safety Stations: Contaminated Equipment: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area. 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.

Work/Hygienic Practices Consistent use of afore-mentioned personal protective equipment is essential in preventing injuries or irritation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid	Appearance:	Clear	Odor:	Characteristic
pH:	12.00+	Vapor Pressure:	Same as water	Flammability:	Non-flammable
Specific Gravity:	Not determined	Vapor Density:	Same as water	Flash Point:	NA
Water Solubility:	Complete	Evaporation Rate:	1.00	Auto Ignition Temp:	NA
Other Solubilities:	Not Determined	Melting Point:	NA	LEL:	Not Determined
% Volatile:	90%+/-	Freeze Point:	Approx. 32°F+/-	UEL:	Not Determined
Boiling Point:	212°F +/-	Decomposition Temp:	Not Determined		

10. STABILITY AND REACTIVITY

Stability:	This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.
Conditions to Avoid:	Excessive temperature, contact with any type of reactive chemicals
Hazardous Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	Avoid contact with Strong Acids, Strong Alkalies, Oxidizers or any other type of reactive material.
Hazardous Decomposition Products:	There are no known hazardous decomposition products for this material unless the material is burned in which case undetermined evolution of toxic gases may occur.

Safety Data Sheet**11. TOXICOLOGICAL INFORMATION**

Hazardous Components	CAS No.:	LD50 of Ingredient (Specify Species & Route)	LD50 Dermal of Ingredient (Specify Species)
Sodium Hydroxide	1310-73-2	500mg/kg Oral Rabbit 40mg/kg Oral Mouse	1350mg/kg Rabbit 500mg/kg 24hr Rabbit
Primary Irritant Effects:			
Routes of Entry: Absorbed through skin, Dermal Contact, Eye Contact, Inhalation.			
Eye Effects: Irritation to eyes & possible burning if materials are not immediately rinsed from the eye.			
Acute Inhalation Effects: Might produce irritation to respiratory system.			
Skin Effects: Irritation to skin.			
Acute Oral/Ingestion Effects: Not tested for this blend. Harmful if swallowed.			
Chronic Effects on Humans: No specific studies have been conducted for this specific blend.			
Other Toxic Effects on Humans: No specific studies have been conducted for this specific blend.			
Special Remarks- Human Chronic Effects: No other information for chronic effects on humans.			
Carcinogenicity: IARC, NTP, and OSHA do not list this product or its components as a carcinogen.			
Mutagenicity: No mutagenic effects are known to be applicable for the formulation components of this product.			
Teratogenicity: No studies have been performed for this specific product blend.			
Target Organ Statement: No studies have been conducted for this specific product blend.			

12. ECOLOGICAL INFORMATION

Hazardous Components	CAS No.:	LC:50	EC:50
Sodium Hydroxide	1310-73-2	125mg/l 96hr Mosquito Fish 25ppm 24 hour Brook Trout 45.4 mg/l 96hr Rainbow Trout	100ppm Daphnia Magna
Special Remarks-Products of biodegradation:	This material is inorganic and not subject to biodegradable.		

13. WASTE DISPOSAL CONSIDERATIONS

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

Container Cleaning and Disposal: Triple rinse the empty containers with water before disposal to reconditioned or land fill or garbage.

14. TRANSPORTATION INFORMATION

Proper Shipping Name:	Corrosive liquid N.O.S.				DOT Shipping Label(s):
Contains:	Sodium Hydroxide				
Hazard Class:	Marine Pollutant:	UN Number:	Packing Group:	ERG Number:	
8	No	1760	II	154	
Special Shipping Notations:	None				

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49, Parts 100-177, IMDG, IATA, EU, United Nations, TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

15. REGULATORY INFORMATION

Hazard Symbols:	
Hazard Statements:	H302-Harmful if swallowed. H312-Harmful in contact with skin. H314-Causes severe skin burns and eye damage. H413-May cause long lasting harmful effects to aquatic life.
Precautionary Statements:	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not get in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required. P301+P330+P331: If swallowed: Rinse mouth. Do not induce vomiting P302+P350: If on skin: Gently wash with soap and water P403-Store in a well ventilated place.

EPA Regulations:

RCRA Hazardous Waste Number:	Product blend is not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.):	Product blend is not classified.
CERCLA Hazardous Substance (40 CFR 302.4):	Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a),

CAA, Sec. 112 CERCLA Reportable Quantity (RQ):	Contains: Sodium Hydroxide 1,000 lb
SARA 313 Codes: This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	Not listed
SARA Toxic Chemical (40CFR 372.65):	Not listed
Sara 302/304 Extremely Hazardous Substance (40CFR 355)	Not listed
Sara 313 SARA EHS (Extremely Hazardous Substance) (40 CFR 355):	Not listed
Threshold Planning Quantity (TPQ):	Not listed
OSHA Regulations:	
Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A):	Not listed.
OSHA Specifically Regulated Substance (29 CFR 1910.):	Not Listed
State Regulations:	As a product blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.
National Regulations:	All components of this product are listed in the U.S. Environmental Protection Agencies, Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

SDS Prepared/Reviewed By: P. Hall
Date of Preparation: 4/2016

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

1. PRODUCT AND COMPANY IDENTIFICATION									
Product Name:	#110-Calcium Indicator Powder (HNB)								
Manufactured By:	Hawkins, Inc.								
2381 Rosegate Roseville, MN 55113 Phone: 800-328-5460	Product Use: A Mixture of Analytical Testing Reagent 24-Hour Emergency Response Number: 800-424-9300 CHEMTREC®								
To the best of our knowledge, this Safety Data Sheet is prepared to comply with US OSHA 29 CFR1910.1200 and other governmental agencies both domestic and foreign. Hazard and precautionary statements are based on maximum listed concentrations of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200) and/or other governmental agencies.									
DOT Label(s)	GHS Pictogram(s)								
Non Regulated Materials	<p>Irritant</p> 								
	<p>HMIS</p> <table border="1" data-bbox="763 637 912 765"> <tr><td>1</td><td>HEALTH</td></tr> <tr><td>0</td><td>FLAMMABILITY</td></tr> <tr><td>0</td><td>REACTIVITY</td></tr> <tr><td>B</td><td>PROTECTIVE EQUIPMENT</td></tr> </table>	1	HEALTH	0	FLAMMABILITY	0	REACTIVITY	B	PROTECTIVE EQUIPMENT
1	HEALTH								
0	FLAMMABILITY								
0	REACTIVITY								
B	PROTECTIVE EQUIPMENT								
	Personal Protective Equipment(s)								
	 Safety Glasses								
	 Gloves								

2. HAZARDS IDENTIFICATION			
EMERGENCY OVERVIEW			
GHS CLASSIFICATION/LABEL ELEMENTS			
Signal Word	GHS Pictogram(s)	Hazard Statements	Precautionary Statements
" WARNING "	<p>Irritant</p> 	<p>H303-May be harmful if swallowed H316-Causes mild skin irritation. H320-Causes eye irritation.</p>	<p>P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not gets in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required.</p>

3. PRODUCT INGREDIENTS				
Hazardous Components	% by Wt.	CAS Number	Hazard Statements (Section 15)	GHS Hazard Pictogram(s)
2,7-Naphthalenedisulfonicacid, 3-hydroxy-4-[2-(2-hydroxy-4-sulfo-1-naphthalenyl)diazaryl]-	0-5	29120-26-1	H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation	
Halide Compound	90-95	7647-14-5	H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation	
Non Hazardous Ingredient	0-5			
Total	100			

4. FIRST AID MEASURES	
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Call a physician if any difficulties persist.
Eyes:	Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support.
Skin:	Wash affected areas thoroughly with soap and water for at least 15 minutes. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention if any irritation persists.
Ingestion	If person can swallow, give 2 glasses of water to drink. DO NOT INDUCE VOMITING! After first aid, seek appropriate in-plant, paramedic, or community medical support. Never give anything by mouth to an unconscious person.
<i>After first aid, get appropriate in-plant, paramedic, or community medical support.</i>	

5. FIRE FIGHTING MEASURES	
Flammability Classification:	Non Flammable
Suitable Extinguishing Media:	Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical
Unusual Fire or Explosion Hazards:	None known other than material can splatter above 100°C/212°F.
Hazardous Combustion Products:	Unknown but carbon monoxide may be released on burning.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Small Spills:	Absorb spill with paper towel or similar absorbent; or flush to sewer or ground with large amounts of water.
Large Spills:	For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Absorb spill with vermiculite, oil dry or similar non-reactant absorbent. Solidified product represents no environmental hazard.
Containment:	
Cleanup:	Accumulate the absorbed materials and dispose of according to federal, state and local regulations.
Environmental Precautions:	Follow applicable OSHA/CERCLA or any other regulations (29 CFR 1910.120) as well as any state or local regulations that may apply.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices. Wash thoroughly after handling.
Conditions for safe Storage:	Do not store in direct sunlight. Store in a tightly closed container. Store in a cool dry, well ventilated area. Do not store this material near any strong acids, bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes. Do not store product above 77°F.
Regulatory Requirements:	Store materials according to all local, state and federal guidelines that are established for non-regulated chemical products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with limit values that require monitoring at the workplace:**

Hazardous Components	CAS Number	OSHA PEL/TWA STEL	ACGIH TLV/TWA STEL	Other
2,7-Naphthalenedisulfonicacid, 3-hydroxy-4-[2-(2-hydroxy-4-sulfo-1-naphthalenyl)diazenyl]-	29120-26-1	None Est.	None Est.	
Halide Compound	7647-14-5	None Est.	None Est.	

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.

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 vessel, 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. 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. At a minimum wear safety glasses with side shields as well as chemically protective gloves and aprons to prevent prolonged or repeated skin contact.

Personal Protective Equipment (PPE): 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.

Work/Hygienic Practices Consistent use of afore-mentioned personal protective equipment is essential in preventing injuries or irritation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Granular Solid	Appearance:	Blue color	Odor:	Characteristic
pH:	NA	Vapor Pressure:	NA	Flammability:	NIA
Specific Gravity:	NA	Vapor Density:	NA	Flash Point:	NIA
Water Solubility:	25% +/-	Evaporation Rate:	NA	Auto Ignition Temp:	NIA
Other Solubilities:	Not Determined	Melting Point:	NA	LEL:	Not Determined
% Volatile:	<1	Freeze Point:	NA	UEL:	Not Determined
Boiling Point:	NA	Decomposition Temp:	Not Determined		

10. STABILITY AND REACTIVITY

Stability:	This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.
Conditions to Avoid:	Excessive temperature, contact with any type of reactive chemicals
Hazardous Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	Avoid contact with Strong Acids, Strong Alkalies, Oxidizers or any other type of reactive material.
Hazardous Decomposition Products:	There are no known hazardous decomposition products for this material unless the material is burned in which case undetermined evolution of toxic gases may occur.

11. TOXICOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	LD50 of Ingredient (Specify Species & Route)	LD50 Dermal of Ingredient (Specify Species)
2,7-Naphthalenedisulfonicacid, 3-hydroxy-4-[2-(2-hydroxy-4-sulfo-1-naphthalenyl)diazaryl]-	29120-26-1	No data at publication	No data at publication
Halide Compound	7647-14-5	3000 mg/kg Oral Rat, 8gm/kg Oral Rabbit 4000mg/kg Oral Mouse, LDLo: 1mg/kg Man	>10gm/kg Rabbit LC50: >42000mg/m3 1hr Rat
Primary Irritant Effects:			
Routes of Entry:	Absorbed through skin, Dermal Contact, Eye Contact, Inhalation.		
Eye Effects:	Irritation to eyes & possible burning if materials are not immediately rinsed from the eye.		
Acute Inhalation Effects:	Might produce irritation to respiratory system.		
Skin Effects:	Irritation to skin.		
Acute Oral/Ingestion Effects:	Not tested for this blend. Harmful if swallowed.		
Chronic Effects on Humans:	No specific studies have been conducted for this specific blend.		
Other Toxic Effects on Humans:	No specific studies have been conducted for this specific blend.		
Special Remarks- Human Chronic Effects:	No other information for chronic effects on humans.		
Carcinogenicity:	IARC, NTP, and OSHA do not list this product or its components as a carcinogen.		
Mutagenicity:	No mutagenic effects are known to be applicable for the formulation components of this product.		
Teratogenicity:	No studies have been performed for this specific product blend.		
Target Organ Statement:	No studies have been conducted for this specific product blend.		

12. ECOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	LC:50	EC:50
2,7-Naphthalenedisulfonicacid, 3-hydroxy-4-[2-(2-hydroxy-4-sulfo-1-naphthalenyl)diazaryl]-	29120-26-1	No data at publication	No data at publication
Halide Compound	7647-14-5	No data at publication	No data at publication
Special Remarks-Products of biodegradation:	No information at publication		

13. WASTE DISPOSAL CONSIDERATIONS			
Disposal Regulatory Requirements:	Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable federal, state and local regulations.		
Container Cleaning and Disposal:	Triple rinse the empty containers with water before disposal to reconditioned or land fill or garbage.		

14. TRANSPORTATION INFORMATION					DOT Shipping Label(s):
Proper Shipping Name:	NON REGULATED MATERIALS				None
Contains:					
Hazard Class:	Marine Pollutant:	UN Number:	Packing Group:	ERG Number:	
Non Hazardous	No	NA	NA	NA	
Special Shipping Notations:	None				

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49, Parts 100-177, IMDG, IATA, EU, United Nations, TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

15. REGULATORY INFORMATION	
Hazard Symbols:	!
Hazard Statements:	H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation
Precautionary Statements:	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not get in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required. P301+P330+P331: If swallowed: Rinse mouth. Do not induce vomiting P302+P350: If on skin: Gently wash with soap and water P403-Store in a well ventilated place.

EPA Regulations:

RCRA Hazardous Waste Number:	Product blend is not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.):	Product blend is not classified.
CERCLA Hazardous Substance (40 CFR 302.4):	Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a),
CAA, Sec. 112 CERCLA Reportable Quantity (RQ):	Not listed

SARA 313 Codes: This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	Not listed
SARA Toxic Chemical (40CFR 372.65):	Not listed
Sara 302/304 Extremely Hazardous Substance (40CFR 355)	Not listed
Sara 313 SARA EHS (Extremely Hazardous Substance) (40 CFR 355):	Not listed
Threshold Planning Quantity (TPQ):	Not listed
OSHA Regulations:	
Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A):	Not listed.
OSHA Specifically Regulated Substance (29 CFR 1910.):	Not Listed
State Regulations:	As a product blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.
National Regulations:	All components of this product are listed in the U.S. Environmental Protection Agencies, Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

SDS Prepared/Reviewed By: P. Hall
Date of Preparation: 4/2016

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

1. PRODUCT AND COMPANY IDENTIFICATION						
Product Name:	#143-Hardness Indicator Buffer Solution	Product Use:	A Mixture of Analytical Testing Reagent			
Manufactured By:			24-Hour Emergency Response Number:			
			800-424-9300 CHEMTREC®			
Hawkins, Inc. 2381 Rosegate Roseville, MN 55113 Phone: 800-328-5460						
<p>To the best of our knowledge, this Safety Data Sheet is prepared to comply with US OSHA 29 CFR1910.1200 and other governmental agencies both domestic and foreign. Hazard and precautionary statements are based on maximum listed concentrations of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200) and/or other governmental agencies.</p>						
DOT Label(s)	GHS Pictogram(s)	HMIS	Personal Protective Equipment(s)			
Non Regulated Materials			 Safety Glasses  Gloves			
2. HAZARDS IDENTIFICATION						
GHS CLASSIFICATION/LABEL ELEMENTS						
Signal Word	GHS Pictogram(s)	Hazard Statements	Precautionary Statements			
"WARNING"		H303-May be harmful if swallowed H316-Causes mild skin irritation. H320-Causes eye irritation.	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not get in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required.			
3. PRODUCT INGREDIENTS						
Hazardous Components	% by Wt.	CAS Number	Hazard Statements (Section 15)	GHS Hazard Pictogram(s)		
(3-Hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]-1-naphthalenesulfonic acid)	0-5	3147-14-6	H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation			
2,2,2-Nitrilotris-ethanol	50-75	102-71-6	H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation			
2-Aminoethanol	0-20	141-43-5	H302-Harmful if swallowed. H314-Causes severe skin burns and eye damage. H332-Harmful if inhaled. H412-Harmful to aquatic life with long lasting effects.			
Non Hazardous Ingredient	0-50					
Total	100					
4. FIRST AID MEASURES						
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Call a physician if any difficulties persist.					
Eyes:	Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support.					
Skin:	Wash affected areas thoroughly with soap and water for at least 15 minutes. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention if any irritation persists.					
Ingestion	If person can swallow, give 2 glasses of water to drink. DO NOT INDUCE VOMITING! After first aid, seek appropriate in-plant, paramedic, or community medical support. Never give anything by mouth to an unconscious person.					
<i>After first aid, get appropriate in-plant, paramedic, or community medical support.</i>						
5. FIRE FIGHTING MEASURES						
Flammability Classification:	Non Flammable					
Suitable Extinguishing Media:	Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical					
Unusual Fire or Explosion Hazards:	None known other than material can splatter above 100°C/212°F.					
Hazardous Combustion Products:	Unknown but carbon monoxide may be released on burning.					
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.					

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Small Spills:	Absorb spill with paper towel or similar absorbent; or flush to sewer or ground with large amounts of water.
Large Spills:	For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Absorb
Containment:	spill with vermiculite, oil dry or similar non-reactant absorbent. Solidified product represents no environmental hazard.
Cleanup:	Accumulate the absorbed materials and dispose of according to federal, state and local regulations.
Environmental Precautions:	Follow applicable OSHA/CERCLA or any other regulations (29 CFR 1910.120) as well as any state or local regulations that may apply.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices. Wash thoroughly after handling.
Conditions for safe Storage:	Do not store in direct sunlight. Store in a tightly closed container. Store in a cool dry, well ventilated area. Do not store this material near any strong acids, bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes.
Regulatory Requirements:	Store materials according to all local, state and federal guidelines that are established for non-regulated chemical products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with limit values that require monitoring at the workplace:**

Hazardous Components	CAS Number	OSHA PEL/TWA STEL	ACGIH TLV/TWA STEL	Other
(3-Hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]-1-naphthalenesulfonic acid)	3147-14-6	None Est.	None Est.	
2,2,2-Nitrolotris-ethanol	102-71-6	None Est.	5mg/m3	
2-Aminoethanol	141-43-5	3ppm	6ppm	

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.

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 vessel, 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.

Personal Protective Equipment (PPE): 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. At a minimum wear safety glasses with side shields as well as chemically protective gloves and aprons to prevent prolonged or repeated skin contact.

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.

Work/Hygienic Practices: Consistent use of afore-mentioned personal protective equipment is essential in preventing injuries or irritation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid	Appearance:	Blue liquid	Odor:	Slight odor
pH:	9-11	Vapor Pressure:	Same as water	Flammability:	Non-flammable
Specific Gravity:	1.20+/-	Vapor Density:	Same as water	Flash Point:	NA
Water Solubility:	Complete	Evaporation Rate:	1.00	Auto Ignition Temp:	NA
Other Solubilities:	Not Determined	Melting Point:	NA	LEL:	Not Determined
% Volatile:	95%+/-	Freeze Point:	Approx. 32°F	UEL:	Not Determined
Boiling Point:	212°F +/-	Decomposition Temp:	Not Determined		

10. STABILITY AND REACTIVITY

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.

Conditions to Avoid:	Excessive temperature, contact with any type of reactive chemicals
Hazardous Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	Avoid contact with Strong Acids, Strong Alkalies, Oxidizers or any other type of reactive material.
Hazardous Decomposition Products:	There are no known hazardous decomposition products for this material unless the material is burned in which case undetermined evolution of toxic gases may occur.

11. TOXICOLOGICAL INFORMATION

Hazardous Components	CAS No.:	LD50 of Ingredient (Specify Species & Route)	LD50 Dermal of Ingredient (Specify Species)
Calmagite (3-Hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]-1-naphthalenesulfonic acid)	3147-14-6	No data at publication	Irritant
2,2,2-Nitrilotris-ethanol	102-71-6	4920ul/kg Oral Rat 5000mg/kg Oral Rabbit	>2000mg/kg Rabbit
2-Aminoethanol	141-43-5	1720mg/kg Oral Rat	1000mg/kg Rabbit

Primary Irritant Effects:

Routes of Entry: Absorbed through skin, Dermal Contact, Eye Contact, Inhalation.

Eye Effects: Irritation to eyes & possible burning if materials are not immediately rinsed from the eye.

Acute Inhalation Effects: Might produce irritation to respiratory system.

Skin Effects: Irritation to skin.

Acute Oral/Ingestion Effects: Not tested for this blend. Harmful if swallowed.

Chronic Effects on Humans: No specific studies have been conducted for this specific blend.

Other Toxic Effects on Humans: No specific studies have been conducted for this specific blend.

Special Remarks- Human Chronic Effects: No other information for chronic effects on humans.

Carcinogenicity: IARC, NTP, and OSHA do not list this product or its components as a carcinogen.

Mutagenicity: No mutagenic effects are known to be applicable for the formulation components of this product.

Teratogenicity: No studies have been performed for this specific product blend.

Target Organ Statement: No studies have been conducted for this specific product blend.

12. ECOLOGICAL INFORMATION

Hazardous Components	CAS No.:	LC:50	EC:50
Calmagite (3-Hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]-1-naphthalenesulfonic acid)	3147-14-6	No data at publication	No data at publication
2,2,2-Nitrilotris-ethanol	102-71-6	Non Toxic	Non Toxic
2-Aminoethanol	141-43-5	33mg/l 48hr Daphnia Magna	No data at publication
Special Remarks-Products of biodegradation:	No information at publication		

13. WASTE DISPOSAL CONSIDERATIONS

Disposal Regulatory Requirements:	Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable federal, state and local regulations.
Container Cleaning and Disposal:	Triple rinse the empty containers with water before disposal to reconditioned or land fill or garbage.

14. TRANSPORTATION INFORMATION

Proper Shipping Name:	NON REGULATED MATERIALS				DOT Shipping Label(s):
Contains:					
Hazard Class:	Marine Pollutant:	UN Number:	Packing Group:	ERG Number:	
Non Hazardous	No	NA	NA	NA	
Special Shipping Notations:	None				

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49, Parts 100-177, IMDG, IATA, EU, United Nations, TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

15. REGULATORY INFORMATION

Hazard Symbols:	
Hazard Statements:	H303-May be harmful if swallowed H315-Causes skin irritation. H319-Causes serious eye Irritation
Precautionary Statements:	P102+P103-Keep out of reach of children. Read label before use. P233+P234-Keep container tightly closed. Keep only in original container. P262-Do not get in eyes, on skin, or on clothing. P264-Wash thoroughly after handling. P270-Do not eat, drink or smoke when using this product. P281-Use personal protective equipment as required.

	P301+330+331- If swallowed, rinse mouth. Do not induce vomiting.
	P304+P341- IF inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P305+P351+P338-IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present.

EPA Regulations:

RCRA Hazardous Waste Number:	Product blend is not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.):	Product blend is not classified.
CERCLA Hazardous Substance (40 CFR 302.4):	Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a),
CAA, Sec. 112 CERCLA Reportable Quantity (RQ):	Not listed
SARA 313 Codes: This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	Not listed
SARA Toxic Chemical (40CFR 372.65):	Not listed
Sara 302/304 Extremely Hazardous Substance (40CFR 355)	Not listed
Sara 313 SARA EHS (Extremely Hazardous Substance) (40 CFR 355):	Not listed
Threshold Planning Quantity (TPQ):	Not listed
OSHA Regulations:	
Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A):	Not listed.
OSHA Specifically Regulated Substance (29 CFR 1910.):	Not Listed
State Regulations:	As a product blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.
National Regulations:	All components of this product are listed in the U.S. Environmental Protection Agencies, Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

SDS Prepared/Reviewed By: P. Hall
 Date of Preparation: 4/2016

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

Safety Data Sheet**R411****1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name: #R411-Hardness Titrating Solution
(1 Drop = 1ppm - 300ppm as CaCO₃/25ml)

Product Use: A Mixture of Analytical Testing Reagent**Manufactured By:****24-Hour Emergency Response Number:**

Hawkins, Inc.
2381 Rosegate
Roseville, MN 55113
Phone: 800-328-5460

800-424-9300 CHEMTREC®

To the best of our knowledge, this Safety Data Sheet is prepared to comply with US OSHA 29 CFR1910.1200 and other governmental agencies both domestic and foreign. Hazard and precautionary statements are based on maximum listed concentrations of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200) and/or other governmental agencies.

DOT Label(s)	GHS Pictogram(s)	HMIS	Personal Protective Equipment(s)
Non Regulated Materials		 1 HEALTH 0 FLAMMABILITY 0 REACTIVITY B PROTECTIVE EQUIPMENT	 Safety Glasses Gloves

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION/LABEL ELEMENTS**

Signal Word	GHS Pictogram(s)	Hazard Statements	Precautionary Statements
"WARNING"		H303-May be harmful if swallowed. H316-Causes mild skin irritation. H320-Causes eye irritation.	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not get in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required.

3. PRODUCT INGREDIENTS

Hazardous Components	% by Wt.	CAS Number	Hazard Statements (Section 15)	GHS Hazard Pictogram(s)
Ethylenediaminetetraacetate Tetrasodium	0-5	64-02-8	H290-May be corrosive to Metal H302-Harmful if swallowed. H316-Causes mild skin irritation. H319-Causes serious eye irritation. H332-Harmful if inhaled.	
Non Hazardous Ingredient	95-100			
Total	100			

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Call a physician if any difficulties persist.

Eyes: Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support.

Skin: Wash affected areas thoroughly with soap and water for at least 15 minutes. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention if any irritation persists.

Ingestion: If person can swallow, give 2 glasses of water to drink. DO NOT INDUCE VOMITING! After first aid, seek appropriate in-plant, paramedic, or community medical support. Never give anything by mouth to an unconscious person.

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

5. FIRE FIGHTING MEASURES

Flammability Classification:	Non Flammable
Suitable Extinguishing Media:	Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical
Unusual Fire or Explosion Hazards:	None known other than material can splatter above 100°C/212°F.
Hazardous Combustion Products:	Unknown but carbon monoxide may be released on burning.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Small Spills:	Absorb spill with paper towel or similar absorbent; or flush to sewer or ground with large amounts of water.
Large Spills:	For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Absorb spill with vermiculite, oil dry or similar non-reactant absorbent. Solidified product represents no environmental hazard.
Containment:	
Cleanup:	Accumulate the absorbed materials and dispose of according to federal, state and local regulations.
Environmental Precautions:	Follow applicable OSHA/CERCLA or any other regulations (29 CFR 1910.120) as well as any state or local regulations that may apply.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices. Wash thoroughly after handling.
Conditions for safe Storage:	Do not store in direct sunlight. Store in a tightly closed container. Store in a cool dry, well ventilated area. Do not store this material near any strong acids, bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes.
Regulatory Requirements:	Store materials according to all local, state and federal guidelines that are established for non-regulated chemical products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS Number	OSHA PEL/TWA STEL	ACGIH TLV/TWA STEL	Other
Ethylenediaminetetraacetate Tetrasodium	64-02-8	None Est.	None Est.	
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.				
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 vessel, or storage tanks), wear an SCBA. <i>Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.</i> 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.				
Personal Protective Equipment (PPE): 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. At a minimum wear safety glasses with side shields as well as chemically protective gloves and aprons to prevent prolonged or repeated skin contact.				
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. Work/Hygienic Practices: Consistent use of afore-mentioned personal protective equipment is essential in preventing injuries or irritation.				

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid	Appearance:	Clear	Odor:	Slight odor
pH:	7-10	Vapor Pressure:	Same as water	Flammability:	Non-flammable
Specific Gravity:	1.01+/-	Vapor Density:	Same as water	Flash Point:	NA
Water Solubility:	Complete	Evaporation Rate:	1.0	Auto Ignition Temp:	NA
Other Solubilities:	Not Determined	Melting Point:	NA	LEL:	Not Determined
% Volatile:	>95%	Freeze Point:	Approx. 32°F	UEL:	Not Determined
Boiling Point:	212°F +/-	Decomposition Temp:	Not Determined		

10. STABILITY AND REACTIVITY

Stability:	This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.
Conditions to Avoid:	Excessive temperature, contact with any type of reactive chemicals
Hazardous Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	Avoid contact with Strong Acids, Strong Alkalies, Oxidizers or any other type of reactive material.
Hazardous Decomposition Products:	There are no known hazardous decomposition products for this material unless the material is burned in which case undetermined evolution of toxic gases may occur.

Safety Data Sheet**R411**

11. TOXICOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	LD50 of Ingredient (Specify Species & Route)	LD50 Dermal of Ingredient (Specify Species)
Ethylenediaminetetraacetate Tetrasodium	64-02-8	1700mg/kg Oral Rat 30mg/kg Oral Mouse	Non-Irritant
Primary Irritant Effects:			
Routes of Entry:	Absorbed through skin, Dermal Contact, Eye Contact, Inhalation.		
Acute Inhalation Effects:	Might produce irritation to respiratory system.		
Skin Effects:	Irritation to skin.		
Acute Oral/Ingestion Effects:	Not tested for this blend. Harmful if swallowed.		
Chronic Effects on Humans:	No specific studies have been conducted for this specific blend.		
Other Toxic Effects on Humans:	No specific studies have been conducted for this specific blend.		
Special Remarks- Human Chronic Effects:	No other information for chronic effects on humans.		
Carcinogenicity:	IARC, NTP, and OSHA do not list this product or its components as a carcinogen.		
Mutagenicity:	No mutagenic effects are known to be applicable for the formulation components of this product.		
Teratogenicity:	No studies have been performed for this specific product blend.		
Target Organ Statement:	No studies have been conducted for this specific product blend.		

12. ECOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	EC:50	LC:50
Ethylenediaminetetraacetate Tetrasodium	64-02-8	>100mg/l 48 hour Aquatic invertebrates > 100 mg/l 24 hour Daphnia Magna 10-100mg/l 72 hour Algae	>500mg/l 96 hour Golden Orfe DEV-L2 : > 100 mg/l microorganisms
Special Remarks-Products of biodegradation:	Tetra sodium EDTA is not biodegradable test conducted in closed bottle with natural sea water.		

13. WASTE DISPOSAL CONSIDERATIONS			
Disposal Regulatory Requirements:	Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable federal, state and local regulations.		
Container Cleaning and Disposal:	Triple rinse the empty containers with water before disposal to reconditioned or land fill or garbage.		

14. TRANSPORTATION INFORMATION					
Proper Shipping Name:	NON REGULATED MATERIALS				DOT Shipping Label(s):
Contains:					
Hazard Class:	Marine Pollutant:	UN Number:	Packing Group:	ERG Number:	
Non Hazardous	No	NA	NA	NA	None
Special Shipping Notations:	None				

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49, Parts 100-177, IMDG, IATA, EU, United Nations, TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

15. REGULATORY INFORMATION	
Hazard Symbols:	
Hazard Statements:	H303-May be harmful if swallowed H316-Causes mild skin irritation. H320-Causes eye Irritation
Precautionary Statements:	P102+P103-Keep out of reach of children. Read label before use. P233+P234-Keep container tightly closed. Keep only in original container. P262-Do not get in eyes, on skin, or on clothing. P264-Wash thoroughly after handling. P270-Do not eat, drink or smoke when using this product. P281-Use personal protective equipment as required. P301+330+331- If swallowed, rinse mouth. Do not induce vomiting. P304+P341- If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present.

EPA Regulations:

RCRA Hazardous Waste Number:	Product blend is not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.):	Product blend is not classified.
CERCLA Hazardous Substance (40 CFR 302.4):	Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a),
CAA, Sec. 112 CERCLA Reportable Quantity (RQ):	Not listed
SARA 313 Codes: This product is subject to the reporting	Not listed

requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	
SARA Toxic Chemical (40CFR 372.65):	Not listed
Sara 302/304 Extremely Hazardous Substance (40CFR 355)	Not listed
Sara 313 SARA EHS (Extremely Hazardous Substance) (40 CFR 355):	Not listed
Threshold Planning Quantity (TPQ):	Not listed
OSHA Regulations:	
Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A):	Not listed.
OSHA Specifically Regulated Substance (29 CFR 1910.):	Not Listed
State Regulations:	As a product blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.
National Regulations:	All components of this product are listed in the U.S. Environmental Protection Agencies, Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

SDS Prepared/Reviewed By: P. Hall
 Date of Preparation: 4/2016

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.