Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

I9121 Ammonia combination ISE, Part Number 5190-4004

Section 1. Identification

1.1 Product identifier

Product name : I9121 Ammonia combination ISE, Part Number 5190-4004

Part No. (Chemical Kit) : 5190-4004

Part No. : * I9121 ISE — I9121 ISE
Ammonia Electrode Reference Solution — 5190-0544-1

Validation date : 7/28/2016

1.2 Relevant identified uses of the substance or mixture and uses advised against

Material uses : Analytical chemistry.

* I9121 ISE — Electrodes. (1 x 1 ml)
Ammonia Electrode Reference Solution — 1 x 30 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Note * : **This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.**

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : * I9121 ISE — This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Ammonia Electrode Reference Solution — While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

*** I9121 ISE**

H320 — EYE IRRITATION - Category 2B

H373 — SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) - Category 2

Ingredients of unknown toxicity : * I9121 ISE — Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 10%

Ammonia Electrode Reference Solution — Not applicable.

2.2 GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word	: * I9121 ISE	Warning
	Ammonia Electrode Reference Solution	No signal word.
Hazard statements	: * I9121 ISE	H320 - Causes eye irritation. GHS SYMBOL - **Health hazard** - H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)
	Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Precautionary statements

Prevention	: * I9121 ISE	P260 - Do not breathe vapor. P264 - Wash hands thoroughly after handling.
	Ammonia Electrode Reference Solution	Not applicable.
Response	: * I9121 ISE	P314 - Get medical attention if you feel unwell. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	Ammonia Electrode Reference Solution	Not applicable.
Storage	: * I9121 ISE	Not applicable.
	Ammonia Electrode Reference Solution	Not applicable.
Disposal	: * I9121 ISE	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Ammonia Electrode Reference Solution	Not applicable.
Supplemental label elements	: * I9121 ISE	None known.
	Ammonia Electrode Reference Solution	None known.

2.3 Other hazards

Hazards not otherwise classified	: * I9121 ISE	None known.
	Ammonia Electrode Reference Solution	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: * I9121 ISE	Mixture (encapsulated in article)
	Ammonia Electrode Reference Solution	Mixture

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
I9121 ISE		
Potassium chloride	≥10 - ≤20	7447-40-7
Ethanediol	≥10 - ≤20	107-21-1
Phosphoric acid, sodium salt	≥10 - ≤25	7632-05-5
Disodium hydrogenorthophosphate	≥10 - ≤25	7558-79-4
Ammonia Electrode Reference Solution		
Sodium chloride	<10	7647-14-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact :

I9121 ISE: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Ammonia Electrode Reference Solution: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation :

I9121 ISE: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ammonia Electrode Reference Solution: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact :

I9121 ISE: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ammonia Electrode Reference Solution: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Section 4. First aid measures

Ingestion	:	* I9121 ISE	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		Ammonia Electrode Reference Solution	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	* I9121 ISE	Causes eye irritation.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Inhalation	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Skin contact	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Ingestion	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	* I9121 ISE	Adverse symptoms may include the following: irritation watering redness
		Ammonia Electrode Reference Solution	No specific data.
Inhalation	:	* I9121 ISE	No specific data.
		Ammonia Electrode Reference Solution	No specific data.
Skin contact	:	* I9121 ISE	No specific data.
		Ammonia Electrode Reference Solution	No specific data.
Ingestion	:	* I9121 ISE	No specific data.
		Ammonia Electrode Reference Solution	No specific data.

Section 4. First aid measures

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	* I9121 ISE	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Ammonia Electrode Reference Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	* I9121 ISE	No specific treatment.
		Ammonia Electrode Reference Solution	No specific treatment.
Protection of first-aiders	:	* I9121 ISE	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		Ammonia Electrode Reference Solution	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	* I9121 ISE	Use an extinguishing agent suitable for the surrounding fire.
		Ammonia Electrode Reference Solution	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	* I9121 ISE	None known.
		Ammonia Electrode Reference Solution	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:	* I9121 ISE	In a fire or if heated, a pressure increase will occur and the container may burst.
		Ammonia Electrode Reference Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	* I9121 ISE	Decomposition products may include the following materials: carbon dioxide carbon monoxide phosphorus oxides halogenated compounds metal oxide/oxides
		Ammonia Electrode Reference Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	* I9121 ISE	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		Ammonia Electrode Reference Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: * I9121 ISE	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ammonia Electrode Reference Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: * I9121 ISE	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Ammonia Electrode Reference Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: * I9121 ISE	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Ammonia Electrode Reference Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: * I9121 ISE	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Ammonia Electrode Reference Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	: * I9121 ISE	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Ammonia Electrode Reference Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

Section 6. Accidental release measures

inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	:	* I9121 ISE	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
		Ammonia Electrode Reference Solution	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	* I9121 ISE	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		Ammonia Electrode Reference Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

	:	* I9121 ISE	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
		Ammonia Electrode Reference Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	:	* I9121 ISE	Industrial applications, Professional applications.
		Ammonia Electrode Reference Solution	Industrial applications, Professional applications.

Section 7. Handling and storage

Industrial sector specific solutions	:	*I9121 ISE	Not applicable.
		Ammonia Electrode Reference Solution	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
***I9121 ISE**	
Potassium chloride	None.
Ethanediol	**ACGIH TLV (United States, 3/2015).** C: 100 mg/m³ Form: Aerosol **OSHA PEL 1989 (United States, 3/1989).** CEIL: 50 ppm CEIL: 125 mg/m³
Phosphoric acid, sodium salt	None.
Disodium hydrogenorthophosphate	None.
Ammonia Electrode Reference Solution	
Sodium chloride	None.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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

Section 8. Exposure controls/personal protection

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

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	* I9121 ISE	Liquid.
		Ammonia Electrode Reference Solution	Liquid.
Color	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	White.
Odor	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Odor threshold	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
pH	:	* I9121 ISE	6
		Ammonia Electrode Reference Solution	6
Melting point	:	* I9121 ISE	-25°C (-13°F)
		Ammonia Electrode Reference Solution	0°C (32°F)
Boiling point	:	* I9121 ISE	110°C (230°F)
		Ammonia Electrode Reference Solution	100°C (212°F)
Flash point	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Evaporation rate	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Flammability (solid, gas)	:	* I9121 ISE	Not applicable.
		Ammonia Electrode Reference Solution	Not applicable.
Lower and upper explosive (flammable) limits	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Vapor pressure	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Vapor density	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Relative density	:	* I9121 ISE	1.1
		Ammonia Electrode Reference Solution	1

Section 9. Physical and chemical properties

Solubility	:	* I9121 ISE	Partially soluble in the following materials: cold water and hot water.
		Ammonia Electrode Reference Solution	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Auto-ignition temperature	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Decomposition temperature	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.
Viscosity	:	* I9121 ISE	Not available.
		Ammonia Electrode Reference Solution	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	:	* I9121 ISE	No specific test data related to reactivity available for this product or its ingredients.
		Ammonia Electrode Reference Solution	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	* I9121 ISE	The product is stable.
		Ammonia Electrode Reference Solution	The product is stable.
10.3 Possibility of hazardous reactions	:	* I9121 ISE	Under normal conditions of storage and use, hazardous reactions will not occur.
		Ammonia Electrode Reference Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	* I9121 ISE	No specific data.
		Ammonia Electrode Reference Solution	No specific data.
10.5 Incompatible materials	:	* I9121 ISE	May react or be incompatible with oxidizing materials.
		Ammonia Electrode Reference Solution	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	:	* I9121 ISE	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Ammonia Electrode Reference Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
* I9121 ISE				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
Ethanediol	LD50 Oral	Rat	4700 mg/kg	-
Disodium hydrogenorthophosphate	LD50 Oral	Rat	17000 mg/kg	-
Ammonia Electrode Reference Solution				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
* I9121 ISE					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ethanediol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-
Disodium hydrogenorthophosphate	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ammonia Electrode Reference Solution					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
***I9121 ISE** Ethanediol	Category 2	Not determined	kidneys

Aspiration hazard

Not available.

Information on the likely routes of exposure :

*I9121 ISE	Routes of entry anticipated: Oral, Dermal, Inhalation.
Ammonia Electrode Reference Solution	Not available.

Potential acute health effects

Eye contact :

* I9121 ISE	Causes eye irritation.
Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Inhalation :

* I9121 ISE	No known significant effects or critical hazards.
Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Skin contact :

* I9121 ISE	No known significant effects or critical hazards.
Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Ingestion :

*I9121 ISE	No known significant effects or critical hazards.
Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact :

* I9121 ISE	Adverse symptoms may include the following: irritation watering redness
Ammonia Electrode Reference Solution	No specific data.

Inhalation :

* I9121 ISE	No specific data.
Ammonia Electrode Reference Solution	No specific data.

Skin contact :

* I9121 ISE	No specific data.
Ammonia Electrode Reference Solution	No specific data.

Ingestion :

* I9121 ISE	No specific data.
Ammonia Electrode Reference Solution	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General	:	* I9121 ISE	May cause damage to organs through prolonged or repeated exposure.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Carcinogenicity	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Mutagenicity	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Teratogenicity	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Developmental effects	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.
Fertility effects	:	* I9121 ISE	No known significant effects or critical hazards.
		Ammonia Electrode Reference Solution	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
*** I9121 ISE**	
Oral	2096.8 mg/kg
Ammonia Electrode Reference Solution	
Oral	44776.1 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
*** I9121 ISE**			
Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 141460 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethanediol	Acute LC50 10000000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 41000000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 8050000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Disodium hydrogenorthophosphate	Acute LC50 3580000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
Ammonia Electrode Reference Solution			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours

Section 12. Ecological information

	Acute EC50 28.85 mg/dm3 Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
*** I9121 ISE**			
Ethanediol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
*** I9121 ISE**			
Potassium chloride	-0.46	-	low
Ethanediol	-1.36	-	low
Disodium hydrogenorthophosphate	-5.8	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
Clean Water Act (CWA) 311: Disodium hydrogenorthophosphate; Ammonium chloride

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Section 15. Regulatory information

***I9121 ISE**						
Potassium chloride	≥10 - ≤20	No.	No.	No.	Yes.	No.
Ethanediol	≥10 - ≤20	No.	No.	No.	Yes.	Yes.
Phosphoric acid, sodium salt	≥10 - ≤25	No.	No.	No.	Yes.	No.
Disodium hydrogenorthophosphate	≥10 - ≤25	No.	No.	No.	Yes.	No.
Ammonia Electrode Reference Solution						
Sodium chloride	<10	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	***I9121 ISE** Ethanediol	107-21-1	≥10 - ≤20
Supplier notification	***I9121 ISE** Ethanediol	107-21-1	≥10 - ≤20

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ETHYLENE GLYCOL; 1,2-DIHYDROXYETHANE; PHOSPHORIC ACID, DISODIUM SALT; SODIUM PHOSPHATE, DIBASIC

New York : The following components are listed: Ethylene glycol; Sodium phosphate, dibasic

New Jersey : The following components are listed: ETHYLENE GLYCOL; 1,2-ETHANEDIOL; SODIUM PHOSPHATE, DIBASIC; PHOSPHORIC ACID, DISODIUM SALT

Pennsylvania : The following components are listed: 1,2-ETHANEDIOL; PHOSPHORIC ACID, DISODIUM SALT

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
***I9121 ISE** Ethanediol	No.	Yes.	No.	No.

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory (ENCS): All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
Turkey inventory: Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Section 15. Regulatory information

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

History

Date of issue : 07/28/2016

Date of previous issue : 07/25/2014.

Version : 3

Indicates information that has changed from previously issued version.

Note * : **This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.**

Notice to reader

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